

ILLUSTRATED CATALOGUE  
OF  
**MAGIC LANTERNS**

*Plain and Artistically Colored Views.*

SCIOPTICONS,



STEREOPTICONS,

... OPTICAL DEPARTMENT ...  
OF

**Melntosh Battery and Optical Co.**

141 AND 143 WABASH AVENUE

CHICAGO, ILLS. U. S. A.

## OUR SPECIALTIES.

---

1.—Dr. McIntosh Solar Microscope and Stereopticon Combination.

2.—McIntosh Combination Stereopticon.

3.—McIntosh Professional Microscope.

4.—McIntosh-Ives Saturator.

5.—McIntosh Sciopticon.

6.—Everything in Projection Apparatus.

Specialties manufactured or sold by other houses will be supplied at their advertised prices. Slides furnished to illustrate almost any subject; also colored slides painted to order by the best artists of the day.

We have a commodious room fitted up to exhibit the practical working of our apparatus to prospective purchasers.

---

## TERMS.

---

1.—Cash in current funds, which may be sent by Registered Letter, Draft, Postal Money Order or Express. Goods sent C. O. D., provided twenty-five per cent of bill is sent with order, the balance to be collected by the Express Company.

2.—All goods will be packed with the greatest care to avoid breakage in transportation, but we cannot be responsible for them after leaving our premises, except under **special** contract.

3.—Any errors in invoice must be reported within ten days from receipt of goods.

Our Goods are all new; we have no old stock.

# McIntosh Battery and Optical Co.,

NOS. 141 AND 143 WABASH AVE.,

CHICAGO, ILLS., U. S. A.

ILLUSTRATED CATALOGUE

—OF—

Stereopticons, Sciopticons,

DISSOLVING VIEW APPARATUS,

MICROSCOPES,

SOLAR MICROSCOPE <sup>AND</sup> STEREOPTICON COMBINATION,

OBJECTIVES,

PHOTOGRAPHIC TRANSPARENCIES,

Artistically Colored Views and Microscopical Preparations.

---

MANUFACTURED AND IMPORTED BY THE OPTICAL DEPARTMENT  
OF THE

McIntosh Battery and Optical Co.,

NOS. 141 AND 143 WABASH AVE.,

CHICAGO, ILLS., U. S. A.

---

THE WORLD'S INDUSTRIAL  
AND  
Cotton Centennial Exposition.

❖ CERTIFICATE OF AWARD ❖

DR. MCINTOSH,  
UNITED STATES,  
FOR SOLAR MICROSCOPES AND OPTICAL INSTRUMENTS, &c.  
**DIPLOMA OF HONOR**

*In accordance with Act of Congress, approved February 10, 1883.*

*New Orleans, May 30, 1885.*

S. H. BUCK, *Director General.*  
E. RICHARDSON, *President.*

GUS A. BREAUX, *Chairman*  
*Committee of Awards.*

---

*The above DIPLOMA OF HONOR was awarded us by the BUREAU OF EDUCATION  
in addition to the GOLD MEDAL AWARD from the Exposition Judges.*

---

---

Entered according to the Act of Congress, in the year 1889,  
By MCINTOSH BATTERY AND OPTICAL COMPANY,  
In the Office of the Librarian of Congress, at Washington, D. C.

---



HEADQUARTERS  
—FOR—  
PROJECTION APPARATUS,  
SLIDES AND ACCESSORIES,



IN  
THE  
WEST.



AWARDED THE GOLD MEDAL  
AT THE NEW ORLEANS EXPOSITION.

Those who attended this Exposition cannot have failed to notice the very large and elegant exhibit of Optical Goods. It gives us great pleasure to announce, that notwithstanding the keen competition of home and foreign manufacturers, we received the award of "**First Degree of Merit**," being the **Gold Medal**, on our specialties.

We have in operation the only Factory in the West for the manufacture of Optical Apparatus, including Magic Lanterns, Sciopticons, Stereopticons and Accessories.

All apparatus of this kind described in the following pages is of our own manufacture, and much of it is made only by us, and under our own patents.

We have secured the services of expert mechanics of great practical experience in this class of work, and are prepared to execute all orders promptly.

Correspondence is solicited with Scientists, Colleges, Schools, Lecturers, and all others interested in our line. We shall be pleased to furnish estimates on special apparatus for scientific work.



## INTRODUCTION.

---

IT is supposed that the Magic Lantern originated early in the 13th century, when it was employed to excite the awe and credulity of the public by so-called magicians. This continued to be its principal use until within the last thirty years. Whereas, formerly, those skilled in arts and sciences sought craftily to preserve their knowledge a secret, except from a chosen few, it is a characteristic of the present age that the man of science seeks to share the result of his labors with his fellow man.

The Magic Lantern has been modified, improved and re-named so that the stereopticon of today bears little resemblance to the crude instrument which excited the wonder of the ignorant and enabled the unscrupulous to play upon their superstitious fears in the ages that have passed away.

The scientific investigator, the educator, the lecturer and he who simply caters to the higher amusement of the public, find in the stereopticon an indispensable aid. In its improved form most delicate investigations into chemical, physical, electrical and pathological phenomena are possible; and what is of most importance, the method of conducting such research, and its immediate results can be shown to an audience as easily as to a single individual. The educator can illustrate in the most effective manner by its aid, Physiology, Botany, Natural History, Chemistry, etc. Problems can be demonstrated, drawing lessons given, maps, diagrams, formulas and a great variety of exercises suitable for the class room can be displayed in a way to impress them upon the memory more firmly than by the older methods. Those who have made use of the Solar Microscope and Stereopticon largely for purposes of instruction are enthusiastic in its praise. **Literary Colleges use it.** A gentleman at the head of one of the largest institutions in the country where a stereopticon is constantly used, writes thus: "**After the Stereopticon, the Black-board seems almost good for nothing. I wonder how we have managed so long without it.**"

**Medical Colleges.** We have supplied many medical colleges with a complete outfit for using the Microscope and Stereopticon with Solar and Artificial light. This method of illustrating medical lectures is very popular with the students, and insures full seats during the hours when this apparatus is employed.

**Microscopists** find frequent use for the solar and oxy-hydrogen light, especially when spending many hours daily in original investigation. It enables them to study many processes on a larger field, giving the relation of parts, and economizes time, aside from the convenience of being able to demonstrate to all observers the work done.

**Lecturers**, whether engaged in instructing the public through the medium of lectures on natural science, or furnishing intellectual amusement suited to a promiscuous audience, thoroughly appreciate the benefits accruing from the use of the Stereopticon with a suitable selection of slides. The public never tires of good pictures and now that the art of photography has developed methods by which the amateur can easily learn to make his own lantern transparencies, a good Stereopticon is a most profitable investment for those who are engaged before the public.

**Sunday Schools** may not only be amused and interested, but religious instruction may be impressed upon the hearts of young and old in a most effective manner by a Stereopticon in the hands of a judicious Pastor or Superintendent. The illustrated Sacred Hymns, especially, form the most touching and beautiful exercise that can be imagined. Some of our leading Pastors use this instrument constantly to illustrate the Sunday School Lessons.

**Temperance Societies** find in the Stereopticon an invaluable aid in exciting interest in this subject which so large a proportion of the public regard as hackneyed and tedious. So extensively is this realized abroad that the most exquisite and varied lecture sets bearing on **Temperance** have been prepared, many of which have never been introduced into this country.

**Bands of Hope, Juvenile Humane Societies, etc.**, which are designed for the benefit of children need every resource for imparting amusement and instruction, judiciously intermingled to keep up the interest of their members. In the Stereopticon they possess the very elements needed for this purpose.

**Lodges, Granges, Grand Army Posts** and all other Societies of a similar character, make considerable use of the Stereopticon as an attractive and economical means of illustrating their rituals or contributing to the interest of their entertainments.

**Insane Asylums** and other Public Institutions where those mentally or physically enfeebled are cared for, find the Stereopticon an endless source of interest; the minds of the patients can be directed to any subject thought desirable, by properly selected pictures.

**Parlor Entertainment.** The Sciopticon affords a never failing source of amusement in the family. Impromptu exhibitions are well

adapted to while away the long dreary evenings in stormy weather when people are so apt to find time hang heavily on their hands. The young people can receive valuable help in forming a refined taste for art by the exercise of care on the part of the older members of the family, in the selection of slides. The Sciopticon has not been so generally introduced into the family in this country as in Europe. The cheap and worthless instruments offered for parlor entertainments have caused dissatisfaction and have been cast aside. As soon as the public, generally, becomes aware that a cheap and satisfactory apparatus is manufactured, there is no question but that this form of home entertainment will be more generally appreciated. Many ladies who have become expert in amateur photography entertain their friends at home with the products of their "summer outing" in the form of views which they have taken of the objects and places of interest discovered in their trip. These can be so readily transformed into beautiful lantern transparencies that this art has become a fascinating recreation to those willing to take the trouble to acquire the simple but necessary details of the process which will be found described in this catalogue.

**Advertising Stereopticons** have become a popular method of bringing advertisers to the attention of the public. Properly managed, this is lucrative both to the exhibitor and his patrons.

The business card of advertisers being displayed singly and repeatedly while the interest of the observers is sustained by interspersing beautiful views of scenery and comic pictures, makes an impression on the memory which is less likely to be forgotten than when seen in an ordinary printed circular, on a picture card, or in a newspaper column. Amateur photography has done away with the only obstacle hitherto in the way of the success of this business; the cost of reproducing the business card, place of business or samples in the form of a lantern transparency is reduced to a trivial sum, and there need be no delay in doing the work.

It would be difficult to find any apparatus or instrument capable of furnishing such a variety of entertainment and instruction as a good Stereopticon. Late improvements have greatly simplified the methods of producing a brilliant light, with due regard to safety and economy, and all persons interested in the art of Projection are cordially invited to communicate with us in regard to the subject.

## A PROFITABLE BUSINESS.

---

THE question of profit in a well managed Stereopticon Exhibition is one which admits of but one answer. This form of entertainment is exceedingly popular among all classes, and when the proper means are employed to bring it before the public cannot fail to be highly remunerative.

The outlay required to secure a first-class outfit is less than for any other business which pays so well.

About fifty views are sufficient for an evening's exhibition. If a greater number is used less effort will be required on the part of the lecturer.

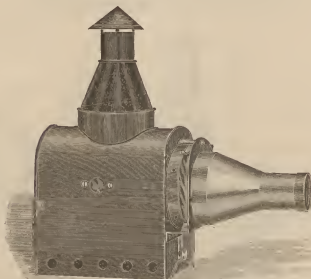
There is no difficulty in learning to work an apparatus ; any one of ordinary intelligence can learn from the printed directions how to manage an Exhibition successfully. It is not even necessary that a man prepare his own programme or lecture ; if he is inexperienced in such work he can obtain illustrated lectures in print all ready to read in connection with the views presented. No heavy labor is demanded, so that persons in delicate health have often succeeded in carrying on the business successfully. It offers an excellent method of paying expenses of travel to such as are compelled to seek change of climate without the necessary means to do so, and at the same time affords light and pleasing employment, which is frequently of no less advantage to the health seeker than the change of location. In almost every locality there is an opening for a man to do a large business in giving exhibitions to Sunday Schools, Academies, Lyceums, Public Audiences, Families, etc.

These are usually conducted on shares when given in churches, and almost everywhere halls can be rented for a percentage of the receipts. The running expenses are very light and the profit large when well advertised.

We are at all times ready to give suggestions or information to those about to engage in this business, and those who can find it convenient to call at our place of business will be shown, in detail, the method of running an exhibition.

**We have the only showroom in the West where the Stereopticon may be seen at work at any time during business hours.**

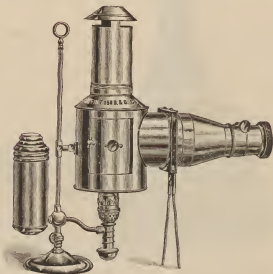
## THE SOCIETY STEREOPTICON.



This little Lantern has been designed more especially for home use; for parlor entertainments; for those who cannot afford the more expensive Lanterns. The Condensing Lenses used in this Lantern are  $4\frac{1}{2}$  inches in diameter, so that the standard size of Lantern slides can be used. The Objective or Projecting Lens is achromatic. Hertofores these low-priced Lanterns have been mere toys, and would only take the cheap toy slides, which are much smaller in size, and of inferior quality. This Scioptron has the most powerful Two-Wick Lamp manufactured, and is provided with a Reflector, which materially increases the illuminating power of the lamp; it burns with a brilliancy hitherto unsurpassed in a low-priced Oil Lantern; it is the best cheap Lantern in the market, and must be seen and tried to be appreciated; it is made in a durable and substantial manner, and every part being riveted it will bear any amount of rough usage. This Lantern is one of the lowest priced and most complete made, occupying a space of only  $15 \times 5\frac{1}{2} \times 14$  inches, and weighing but  $6\frac{1}{2}$  lbs. At the price quoted is furnished a neat traveling case.

PRICE.....\$25.00

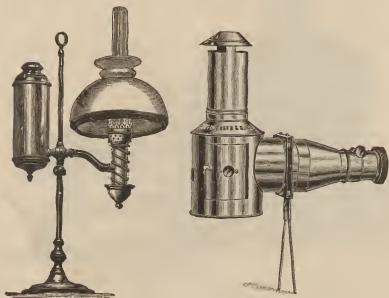
## THE ARGAND SCIOPTICON.



The Argand Sciopticon meets a demand that has long been made upon Lantern manufacturers for a low-priced Magic Lantern of sufficient power to give satisfaction not only to children but to adults as well. This is essentially a Lantern for home instruction and amusement. The Lantern can be attached to any Argand Student Lamp; we show two cuts, one complete, and one of the Argand Student Sciopticon without the Student Lamp, ready to be attached. Among many claims that may be made in support of the desirability of this Lantern are: As the manner or method of Kindergarten instruction has become, and undoubtedly will remain popular, so will the use of the Magic Lantern combine instruction with amusement, and afford inexpensive and inexhaustible entertainment to those who are its fortunate possessors. It is not a toy; with it can be used the standard make of Lantern slides, or transparencies—as made by different makers all over the world. As the source of light is from the ordinary Student Lamp, which almost every one, rich or poor, uses to read or study by, no especial preparation is necessary. All there is to do is to attach the Lantern, and project



upon a common sheet hung on the wall, or suspended in a doorway, or better still, upon the white wall itself. No offensive odor; no intense heat; perfectly clean, and always ready for use. It will make a clear, bright picture  $6\frac{1}{2}$  to  $7\frac{1}{2}$  feet in diameter. It is packed in a neat carrying case, with slide carriers and stops ready for use.



PRICE, complete with Lamp.....	\$35.00
"    without Lamp. ....	30.00



### McINTOSH SCIOPTICON, No. 1.

PRICE, complete, packed in neat case with lock and handle, size  
 22 x 13½ x 9¼ inches..... \$40.00

This compact and convenient Lantern is arranged, as shown in cut, for use with our new Sun-Light Oil Lamp. The base is of iron, in skeleton form, which affords a firm foundation for the working parts, without unnecessary weight. The foot *F* is extensible, to aid in throwing the light on the center of the screen.

The body of this Lantern is made of Russian iron, with peep hole *P* of blue glass in the side for observing the condition of the light. The chimney *H* is removable to reduce the space required for packing. The condensers are fixed in the brass cell *C*, which is movable, and is fastened to any point on the base front by thumb-screw *A*. The slide carrier *h s* is also movable, and is fastened in place by thumb-screw *B*. The springs *s s* are arranged so that the slides may be inserted at the top or from the sides, and afford an unusually large working space for glass cells or other apparatus. The nickel-plated cone *O* brought up close to the slide carrier cuts off the light from the

darkened room. *L* represents the double achromatic combination lens for high and low power, which is focused by rack-work adjustment *S*. The lens carrier is fastened at any point by *E*.

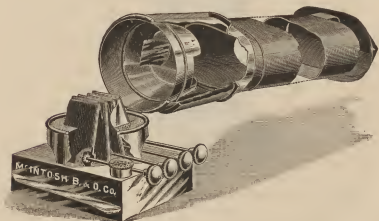
*Special attention is called to the variety of adjustments possible when, as in the McIntosh Sciopticon, the CONDENSERS, SLIDE CARRIERS and LENS are all MOVABLE. The extra working space thereby gained is of great advantage in many physical experiments.*

## NEW MODEL SUNLIGHT OIL LAMP.



We take pleasure in presenting to the public a new Four-Wick Oil Lamp, which may be justly regarded as a triumph of skill; effects being produced hitherto deemed impossible of accomplishment with an oil light. The new model four-wick Sun-Light Oil Lamp is the most powerful lamp ever manufactured for lantern slide projection. The open space beneath

the body of the lantern affords a large air chamber to which fresh air has free access, while the open space about the chimney permits an extra draught in addition to that furnished by the chimney itself. We have expended hundreds and hundreds of dollars in our endeavor to bring before the public an oil lantern that was satisfactory. We have succeeded, and at last it is an established fact. Especial attention is called to the excellent ventilation whereby perfect combustion is secured and an accumulation of heat prevented. It is impossible, with reasonable care in first lighting up, to cause cracking of the condensers from heat, the ventilation being arranged to draw the column of hot air back or away from them. This lamp burns with a brilliancy hitherto unsurpassed; it is easily filled, trimmed, and kept in order. The chimney is made of metal throughout; immediately in front of, and also behind the light, there is an opening for the light to pass to the condenser and reflector. These openings are covered with plates of the highest grade of thin annealed glass of peculiar shape, manufactured expressly for this purpose. This glass is so thin that the amount of light obstructed by it is imperceptible; it is tough, and practically unbreakable except by sheer carelessness. Each glass is easily removed and is entirely independent of the other; the body of the lamp being attached to the fount with a hinge,



renders each and every part easily accessible. The reflector is made after the most approved pattern, and is finely nickel-plated. It is attached to the outside of the chimney, and is protected

from the heat and smoke by glass plates intervening between it and the flame. It is perforated in the center to allow examination of the wicks without exposing the eye to the full light of the lamp. It is all metal except the windows. No glass chimney or isinglass to get scratched, marred, or broken. The flame is pure white and of intense brilliancy, surpassing in illumination any effect previously produced by oil.

#### DIRECTIONS FOR MANAGING THE NEW MODEL SUN-LIGHT OIL LAMP.

1. Use only the very highest grade of oil, 150° test.
2. Do not fill the fount too full, or when the oil gets warm it will expand and run over.
3. A little common camphor dissolved in oil will increase the brilliancy of illumination. It has one disadvantage, that of charring the wick.
4. A coal-oil lamp is like a race-horse—it must be thoroughly warmed up to do its best work. Always turn up the wicks gradually; a very little at a time, until you accomplish the best results on the screen, without the lamp smoking.

PRICE .....\$12.50

CHICAGO, ILL., Nov. 9, 1889.

McINTOSH BATTERY AND OPTICAL CO.,  
141 & 143 Wabash Ave., City.

*Gentlemen:*—In reply to your favor of the 7th inst., I am pleased to inform you that of the many oil lanterns received from you for the use of our Councils, each one has proved entirely satisfactory. The simplicity of construction, and the ease with which they are manipulated, together with the splendid results obtained, commend them at once to public favor.

I take great pleasure in recommending your lanterns.

Yours truly,

C. A. WARREN,  
*Supreme Scribe, Royal League.*

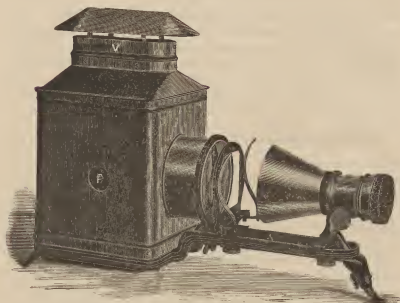
CHICAGO, ILL., December 1, 1889.

*To McIntosh Battery and Optical Co., Chicago, Ill.:*

GENTLEMEN—After a very careful test of your new Sun-Light Oil Lamp with a number of others, I find that in brilliancy, even illumination, etc., it is far superior to any I have ever seen. It is unnecessary to add that I am pleased with my purchase.

Yours truly,

J. B. McCLEERY,  
Member Chicago Lantern Slide Club  
and Chicago Camera Club.



## THE McINTOSH SCIOPTICON, No. 2.

ARRANGED FOR USING THE LIME LIGHT.

PRICE, with Sun-Light Lamp and Adjustable Jet (as shown in cut)  
packed in a neat case with lock and handles ..... \$50.00

The only changes required to transform this from an oil to a lime-light Lantern are the removal of the chimney *H* and substitution of the ventilator *V*, shown above, and the replacing of the lamp by the adjustable jet. The method of lighting up, focusing, etc., will be described on another page.

This apparatus is recommended to teachers, more especially in the lower grades, but since it is possible to operate the Polariscopes in many experiments it can be made available for some of the experimental work in the higher grades, and the convenience of being able to get into work at a moment's notice, and without the trouble of making oxygen, is very great.

The exhibitor being provided with an outfit with which either form of light can be employed is prepared for all emergencies. In a small hall his oil light will be sufficient and will save expense, while in a large hall his more powerful light will be at hand, and in case of breakage of any part of his apparatus for the lime light, he can furnish a very creditable entertainment with his Sun-Light Lamp.

We do not offer this as a perfect substitute for the ether-oxygen or oxy-hydrogen lime light, but we claim that it far surpasses any oil light in the market, and that the cheapness of this light with the rapidity of lighting up is a practical advantage for many purposes.

**The McIntosh Sciopticon**, in simplicity, compactness and brilliancy of illumination, surpasses every other oil lantern we have seen. The price is as low as a satisfactory apparatus can be manufactured for, and we do not hesitate to guarantee that the purchaser will find it in all respects as we represent.

**The McIntosh Sciopticon** is the only Oil Lantern that will show a plain or colored photographic transparency on the screen 12 feet in diameter, as it should be, the picture being perfectly distinct, and the light forming a fair substitute for the lime light.

**The McIntosh Sciopticon** has a burning surface of 12 lineal inches of wick, arranged in such a form as to allow all the rays to be caught within the radius of the condenser.

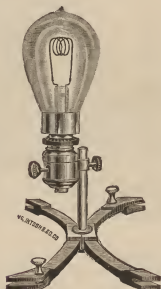
**The McIntosh Sciopticon** is perfect in combustion, casting a beautifully white and flat field, entirely shadowless. The oil in the lamp remains quite cool, owing to the perfect ventilation inside the lantern.

**The McIntosh Sciopticon** has a special combination of lenses adapted expressly to utilize the whole light of the lamp in producing a uniformly illuminated image, free from chromatic or spherical aberration, and capable of perfect adjustment at varying distances.

**The McIntosh Sciopticon** is arranged so that the slide carrier, lens holder and brass cell holding the condensers are movable, thus insuring perfect adaptation to all distances and for all purposes where an oil light could reasonably be expected to give satisfaction.

**The McIntosh Sciopticon** is made in a thoroughly substantial manner, every part being fastened with screws, and will bear any amount of rough usage, to which it must necessarily be subjected, when forming a part of a traveling exhibitor's outfit.

## CUT OF INCANDESCENT LAMP ATTACHED TO BASE.

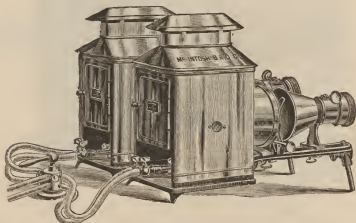


It often happens that a person has a permanent place of exhibition and that he frequently has an electric light circuit at his disposal. The above illustration represents a 150 candle-power incandescent lamp with spiral carbon, attached to a base, and ready to be used in our Sciopticon No. 2 in lieu of either the Sun-light oil-lamp or the adjustable jet. This lamp can be furnished for a current from 50 to 110 volts. With this light a very good 15 ft. picture can be made. The cost of running this light is trifling. The Arc Electric light can also be used, and is the most powerful artificial light that we have; but it is necessary to use a focusing lamp, and these in themselves are expensive, averaging about \$90.00.

PRICE of Incandescent Lamp on Base .....	\$10.00
" " Sciopticon No. 1, with Lamp on Base With Switch.....	50.00
" " Arc Light Sciopticon with focusing arc lamp.....	125.00

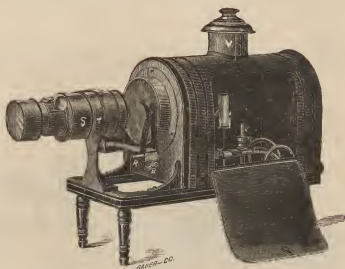


## SCIOPTICONS DISSOLVING.



With a pair of Sciopticons as above shown, with a dissolving Key placed between them, very excellent dissolving can be accomplished; either the oxy-hydrogen or oxy-ether light may be used, the dissolver working equally well with either. If one cannot afford to purchase the entire dissolving outfit at one time, this scheme affords a very desirable outfit; since one can purchase a single lantern, and from careful advertising, and judicious management, can soon make enough money to purchase the additional portion of the dissolving outfit, which would be one more lantern, and the dissolving key. All of the lenses used in this lantern are of the same grade, as in the more expensive instruments; full sized condensers  $4\frac{1}{2}$  in. in diameter are used; the objective or magnifying lens is achromatic, and is of first class quality. The two lanterns with the Dissolving Key, 12 ft. screen, slide carriers, and slide stop, and the requisite amount of tubing, are securely packed in a neat traveling case, which is in turn packed in a heavy outside case for shipment.

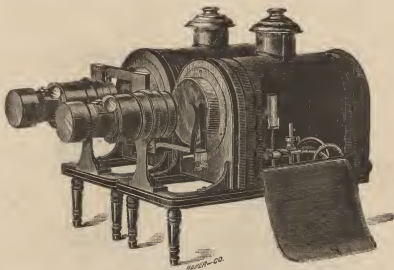
PRICE of outfit, as above enumerated.....\$100.00



## EXHIBITOR'S STEREOPTICON.

PRICE, packed in a neat, substantial case, with hinged lid, lock and handle..... \$65.00

The Stereopticon shown in above illustration has an iron frame for base 17 inches long,  $7\frac{1}{2}$  inches wide, nicely japanned. The body is of Russia iron, brass trimmed, and all the parts are fastened together by screws in a firm and durable manner. The door in the side is open to show the arrangement of lime and jet within. Convenient means for raising, lowering or otherwise centering the light, and for trimming the lime are provided. The jet is platina tipped and perfectly adjusted for mixed gases. The raised and open base admits air freely, while the ventilator *V* is so placed as to draw the current of heated air away from the condensers, and with it the particles of lime that would otherwise settle upon and obscure the condensers. The slide carrier is movable upon the rods *RR*, and is fastened firmly in position by the thumb-screw *B*. The slides may be inserted at the top or side. The sliding brass front *S* is retained in position by the brass collar *T*. Achromatic, double combination lenses for long and short distances, focused by rack and pinion, are furnished with this apparatus. It is made throughout with every attention to detail, so that it can be recommended as a first-class working instrument, that will successfully withstand such hard usage as a traveling exhibitor's outfit must necessarily receive. For the price it is the most satisfactory Stereopticon in the market.



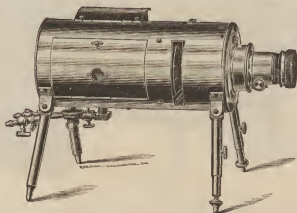
## PAIR OF EXHIBITOR'S STEREOPTICONS FOR DISSOLVING.

PRICE, per pair, with Dissolver, in a neat packing case, with lock and handles, suited for a stand when exhibiting .....\$120.00

The effect of Dissolving Views is one of the most pleasing that the Stereopticon is capable of producing. The term "dissolving" is well chosen, for while the spectators are viewing a picture it can be made to almost imperceptibly fade away, and as it disappears an entirely different one begins to appear, and as the old picture dies out the new one becomes perfectly distinct. The ingenious advertiser can turn this mechanism to good account in keeping up an interest in his display of advertisements. It is usual to employ two separate lanterns, or an apparatus with two or more separate optical parts. A pair of Exhibitor's Stereopticons are admirably adapted to this work.

These Stereopticons can be employed equally well with ether-oxygen or oxy-hydrogen lime light, the dissolver working perfectly with either. This apparatus, from its comparatively light weight, substantial make and the absence of all unnecessary accessories is well adapted to an Advertiser's Outfit. The Lanterns may be used singly when necessary, a matter of great convenience for business purposes. They will be furnished at the same price in separate cases if preferred.

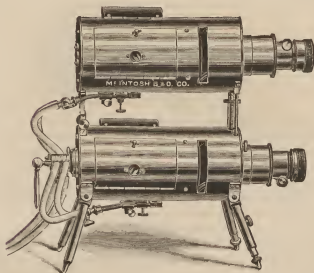
## THE CHICAGO MODEL SCIOPTICON.



This lantern is a Single Sciopticon, and is essentially the same as the lower lantern of the New Chicago Model Stereopticon, described on the following page. The essential parts being the same, simply a single lantern instead of a dissolving Stereopticon. Those who cannot afford the outlay necessary to purchase the dissolving lantern can purchase this Sciopticon, and commence giving their entertainments and easily make the money necessary to purchase the Top Lantern and Dissolving Key, and then have one of the best lanterns made.

PRICE, with Canvas Traveling Case..... \$75 00

## THE CHICAGO MODEL.

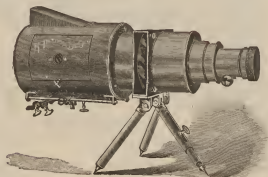


The Chicago Model Stereopticon has been expressly designed for the use of the professional traveling lecturer and exhibitor. It is composed of as few parts as is deemed advisable in the erection of a thoroughly first-class instrument. The material is solid brass throughout and nickel-plated. It embodies several features not possessed by any other instrument. Not only are the legs folding, but they are also telescoped, so that no tilting board, or box, or case is necessary to place it on; and the length of legs is so proportioned that the front of Lantern can be easily elevated or depressed. The registering is established by a unique mechanical movement. The Jets which can be used for oxy-hydrogen or oxy-ether, are mounted with platinum-tipped goosenecks, sliding backward and forward on a track, or way, that is securely bolted to Lantern body, and can be easily raised and lowered and retained in position by a thumb screw, so that the accurate "centering" of the light can be accomplished in a moment. All the different sized objectives can be easily adapted to this Lantern. It is one of the most compact Lanterns made, and also one of the lightest, weighing less than 25 lbs., and occupying a

space when folded up of 18 inches long by  $6\frac{1}{2}$  inches wide by  $14\frac{1}{2}$  inches high. The manner of ventilating is something new and original, making it the coolest Lantern manufactured. The cells that hold the condensing lenses are easily removable; each Lantern has a hinge door into which is set a blue glass window, so that at any time the condition of the light can be ascertained without injury to the eyes by looking directly into the powerful light. The lime carriers are built upon an entirely new principle, so that any ordinary sized cylinder of lime can be securely held without having to *whittle it* down to fit. With this Lantern, at price quoted, is included two sets of double system plano-convex condensing lenses fully  $4\frac{1}{2}$  inches in diameter, 6 inches in focus, mounted in brass cells; one pair accurately matched achromatic objectives, or magnifying glasses, free from chromatic or spherical aberration, wide angles, giving different magnifying powers, with telescope movement for the coarse adjustment, and a rack and pinion mechanical movement for the fine adjustment; two improved adjustable jets, with solid platinum points; our new style Dissolving Key, with special "off-flow" stop cocks designed for use either with gas bags at low pressure or cylinders at high pressure; one pair of slide stops, one pair of slide carriers, and a sufficient quantity of rubber hose for connecting up jets to dissolver. The Chicago Model Stereopticon complete, as above described, is securely packed in a substantial telescope canvas traveling case, which in its turn is packed in a heavy outside case for shipment.

PRICE.....\$150 00

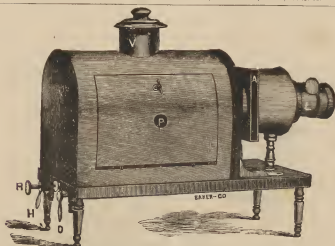
## McINTOSH TELESCOPE SCIOPTICON.



PRICE, complete in a new Canvas Traveling Case, 16 inches long, 8½ inches high, 7½ inches wide..... \$85 00

The Lantern above depicted is one we have designated as the "Telescope." It is a modification, or perhaps better, a combination of the two styles of manufacture used in both the Biunial and Chicago Model Lanterns. It is one of the most compact lanterns made. The front is of solid brass, similar to the heavy front on both the Combination and Biunial Lanterns. The legs are folding, and also have a telescopic movement. The body of lantern is of sheet brass, bronzed or nickel-plated, as the purchaser desires, and is attached to the front by what is known as the "Bayonet" attachment. The flue or chimney is something entirely new. It is part of and permanently attached to the lantern body, and when closed conforms to the contour of the body, so that no extra space is required for packing chimney. The lens is easily removed from front, and can be packed inside of lantern body. This Lantern has been expressly designed for the use of Scientific Societies, since the solid brass front enables the Microscope attachment to be used, and is so firm and solid that it is not easy to jar it out of adjustment.

PRICE.....\$85 00



## McINTOSH COMBINATION STEREOPTICON.

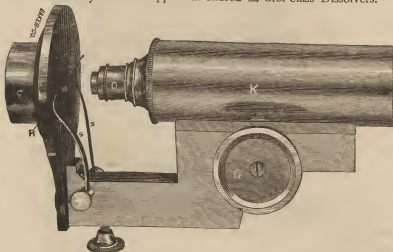
PRICE, complete in neat packing case 21 inches long, 9 $\frac{1}{2}$  inches wide, 13 $\frac{1}{2}$  inches high, with lock and handle.....\$100.00  
Without brass front, condensers and lens..... \$50.00

The base of this handsome apparatus is an open frame of iron, ornamented with japan and gilt, with nickel plated legs 4 inches long. The body is nickel plated, with hinged door in the side for adjusting the jet and lime, and peep hole *P* of blue glass, through which the light can be examined without injury to the eyes from its intense brilliancy. The body is also hinged upon the frame, and may be turned back off from the light for convenient manipulation in certain chemical experiments, and also to light the room at the close of an entertainment. The special jet furnished with this Stereopticon is platina tipped; it is shown in detail and described on another page. *H* and *O* are stop-cocks through which hydrogen and oxygen are admitted from their respective reservoirs. *R* is the rod for drawing the light away from the condensers or moving it nearer to them. There is the same general arrangement for ventilation as in the instruments previously described. The solid brass front *C* can be removed and employed for Solar illumination. It is attached to the body of the Stereopticon by a universal ring, therefore those who are already supplied with our Solar Microscope and Stereopticon Combination, and wish to employ artificial light, can obtain the Lantern portion without the necessity of duplicating the optical parts. The opening *A* is sufficiently wide to admit a variety of physical apparatus employed for demonstrating the phenomena suited to Stereopticon lenses. The lens *L* may be removed and the Microscope Attachment substituted for it. This apparatus was originally designed as



an accessory to the Solar Combination, the optical parts being mutually interchangeable for the purpose of employing the calcium light when sun-light is not available.

Two of these Stereopticons placed side by side make a very fine dissolving apparatus, as all the adjustments are perfect and firm, so that pictures can be accurately registered upon the screen without distortion, and without the constant motion, which is an undesirable feature of many forms of apparatus offered as first-class Dissolvers.



## MICROSCOPE ATTACHMENT.

PRICE, with best quality $1\frac{1}{2}$ inch Objective .....	\$45.00
With second quality $1\frac{1}{2}$ inch objective .....	\$35.00
Without Objective.....	\$25.00

### DESCRIPTION.

K represents the body.

O, the Objective.

C, Coarse Movement.

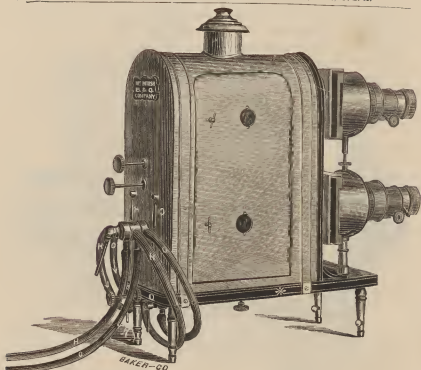
E, Flange cut in threads to fasten in Sliding Tube of Stereopticon.

b, Screw for holding Frog Plate, etc.

S, S, Clips for holding Object Carrier.

C, Sub-Stage Ring.

This Microscope Attachment is designed expressly for projection, and is supplied only with such working parts as are actually necessary. It has the Society Screw, which adapts it to most objectives of American or English make, and also the broad Butterfield Gauge, which admits of using a very large prism for polariscope work. The sub-stage ring will receive Polariscope, Secondary Condenser, Mounted Prisms, and other accessories to experimental work, including all that can be used below the stage on the McIntosh Professional Microscope. The rack and pinion movement permits great delicacy in focusing. This attachment will be found very satisfactory to those using the microscope only for projection. We can furnish other objectives than those named when higher powers are wanted.



## McINTOSH BIUNIAL STEREOPTICON.

PRICE, complete with Dissolver and substantial packing case,  
with lock and handles.....\$200.00  
With our new triple condensers .....\$215.00

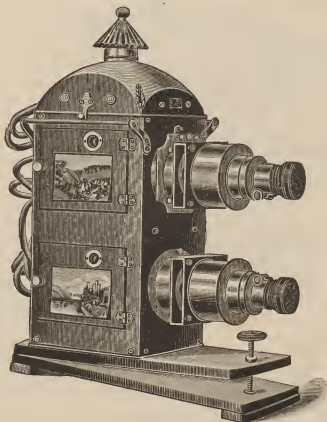
This elegantly constructed Dissolving Apparatus leaves nothing to be desired either in attractiveness of appearance, ease and convenience with which it may be manipulated, or the perfection of the work which it accomplishes. The solid iron frame makes a firm foundation, and prevents any jarring or unsteadiness of equilibrium, while adding no unnecessary weight on account of its skeleton form. The body of the Stereopticon is heavily nickel plated, and all the parts are fastened together by screws. The ventilation is adequate to prevent accumulation of heat in either compartment, and the particles of lime are drawn away from the condensers. The peep holes *PP* of blue glass, permit observation of the lights without opening the door. *D* is the Dissolver connected with the Hydrogen and Oxygen reservoirs by the tubes *H* and *O* on the left of the illustration. *H*<sub>1</sub> and *O*<sub>1</sub> are rubber tubes connecting the Hydrogen and Oxygen chambers of the Dissolver with the corresponding portions of the

mixing chambers of the lower jet through the keys on the lower part of the apparatus.  $H_2$  and  $O_2$  connect the dissolver with the upper jet. These tubes pass under the frame and up inside the body or cover to the upper keys  $H_2$  and  $O_2$ , therefore their direction cannot be shown in the above illustration. The rod  $E$  regulates the distance of light from condensers in the upper lantern, and rod  $F$  in the lower.  $R$  is the rod for raising or lowering the lights.  $S$  is the adjusting screw for centering the light from both lenses upon the same portion of the screen. The lower brass front  $C$  can be detached, and used with the solar apparatus. The upper brass front is adjustable by special screw movement to aid in registering perfectly with the lower. The optical parts are adapted to both sunlight and artificial light, and the oxy-hydrogen or ether-oxygen gases may be employed as preferred. The jets have the same mechanical construction, with screw adjustment for centering the light as the one described in part II.

The McIntosh Biunial has the finest quality of condensers, mounted in brass, screw cells, and solid brass fronts. The lenses are our latest improved double combination achromatic, adapted to all distances ever required; they are provided with rack and pinion and brass sliding tubes that will draw out, giving various focal lengths for different distances. The stages are arranged to take slides of all sizes, and to permit the attachment of various forms of apparatus employed in scientific demonstration. Some very fine effects may be produced by using the Stereopticon lens on one lantern, and the microscope attachment on the other. A microscopic object can thus be projected upon a diagram or scene. In physiological instruction it is convenient to turn from the anatomical to the microscopic structure without waiting to change lenses. A variety of experimental work that will occur to the practical teacher, is facilitated by this apparatus.

The simplicity of construction, durability of material, portability and perfect adaptation of every part to the work to be accomplished is appreciated at sight by all practical lantern men who have examined it, and although it has been before the public but comparatively a short time, the general recognition accorded it by competent judges, as the *Best Dissolving Stereopticon yet made*, and its ready sale are gratifying proofs of its merit.

## THE ROYAL PHOTO-OPTICON.



This magnificent instrument is superior to anything heretofore manufactured in the way of a Magic Lantern. The lantern body is solid brass, burned black; the doors, of which there are two to each lantern, are of bronze and highly ornamental, each door having a landscape thrown up in relief, bronzed. Everything about the lantern is of metal excepting the tilting-board. This board is in two parts, is of solid mahogany, very thick and strong, to which the lantern body is permanently attached. The large thumb-screw by which the lantern is elevated or depressed is made with three threads to the inch, so that one single turn of the large milled head makes quite a difference on the screen. The top of this lantern is hinged, and when thrown back, discloses the third light; this third light being designed

for the illumination of the hall, or theater, or church at the close of an entertainment where they have no electric light, or cannot light their gas by electricity. In an instant when showing the last picture or the "Good Night" chromatrope, you can dissolve right over on this third light, and the hall is brilliantly illuminated so that the audience can readily disperse. Each door is provided with a blue glass window, so that the condition of the light can always be ascertained without injury to the eyes by looking directly into the powerful incandescent lime. The dissolving key furnished with this instrument is of the latest improved pattern, having the new Off-flow Regulating Needle Valves, for the establishment of the off-flow of hydrogen. No rubber tubing is used inside of the lantern. From either side of the mixing chambers a tube of brass passes backward and out of the lantern body. In lieu of having stop-cocks affixed to each tube as in the ordinary manner, separate blocks with needle-valve attachment, are placed on the back of the lantern to which the tubes are attached by short pieces of rubber hose. One feature of these attachments is that you may establish your equilibrium of gases and have your lantern all arranged for work several hours before the entertainment, and by means of these valves you can shut off the supply of gas without disturbing the needle-valves, so that when you light up in the evening you can do so instantly, and yet have a perfect equilibrium established. The jets are both mechanical, whereby the raising and lowering, and moving from right to left or vice versa, and forward and backward movements are all controlled by several milled-head screw movements. This lantern is provided with first-quality Plano Convex Condensing Lenses, four and one-half inches in diameter, mounted in brass fronts so that they can be removed easily for the purpose of cleaning, or if one should become broken through an accident, it can be quickly and easily replaced without disturbing the entertainment. The objectives or magnifying glasses are achromatic and free from chromatic or spherical aberration. Of long focal length, they have two magnifying powers, controlled by the finest rack and pinion focusing movement. The lime carriers are also mechanical, since you can raise or lower, or turn from right to left by a milled-head screw on the back of the lantern. Both fronts are of solid brass, removable at will. The upper front can be revolved so that all mechanical slides that have a vertical move-

ment can be used. This is a feature that is rarely possessed by any other lantern. We think that every one who has ever operated a Royal Photo-Opticon, will say that it is more easily managed than the ordinary style of lantern, and that its very appearance is such that it will impress an audience as being one of the finest lanterns made. We only make one style, and one-priced lantern of this pattern. In the cut shown you above, is an anterior and posterior view of the lantern. The price of the lantern alone just as depicted in the engraving, without any accessories whatsoever, is \$350.00. We make up for this lantern an outfit consisting of the lantern as above described, with one pair of 50-foot cylinders filled with gas, each cylinder being mounted with our Double Needle Valves; one 24-foot screen, one electric signal, one lecturer's reading lamp, one lecturer's stand, one portable screen frame, 200 feet best quality screen rope, 100 plain photographic transparencies, 30 colored wood-mounted slides, for \$500.00 net. This lantern is packed securely in a heavy, hard-wood lantern case, which in turn is packed in a heavy outside box for shipment.

---

WATSEKA, ILL., Nov. 14, 1889.

THE MCINTOSH BATTERY AND OPTICAL CO., Chicago.

*Gentlemen:*—The Chicago Model Stereopticon I purchased from you is perfection itself. The more I use it the better I like it, and the more I find to admire in its uniform and beautiful results.

No lantern that I have ever seen can compare with it for Exhibition purposes. The pictures are the clearest and brightest possible and the dissolving effects are marvelous, while the consumption of gas is very little indeed.

The ease and rapidity with which it can be set up and taken away again is also a great advantage. In fact I would not give up mine for a whole army of any other makes of lanterns I know of.

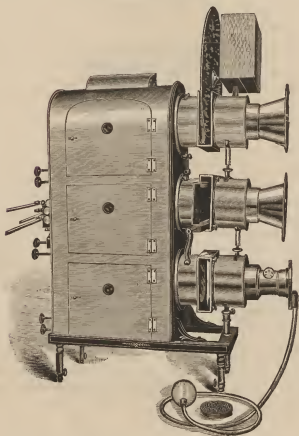
You omitted to send me the Lime Tongs which the Doctor said should go with the Lantern.

Please send me *at once* by C. & E. I. freight two 50 ft. cylinders of gas, and oblige,

Truly yours,

JOHN B. ASTLEY.

## THE TRI-OPTICON FOR PRODUCING SCENIC EFFECTS.



This instrument was constructed by Dr. McIntosh for producing special scenic effects in one of the leading theaters in Chicago (McVicker's). Its perfect success has induced us to place a description and cut of it in our new catalogue. It is tri-unial in construction, that is, the three lanterns are placed one above the other. The upper one has a clock-work movement for revolving a circular disc of glass on which are cloud effects, etc., for producing movable effects. These, when projected on a screen,

have the appearance of moving clouds or figures. The middle lantern has a mechanical movement slide carrier, by means of which, figures, etc., are made to move across the screen, and have the appearance of passing through moving clouds. The lower lantern has an instantaneous shutter in front of the lens, worked by means of an air-bulb. With this device, lightning can be flashed on the screen and produce with the cloud effects a perfect representation of a storm. By the aid of the triple key, the light of each lantern can be controlled at will; all three jets can be lighted at once, one or more gradually turned up or down, or suddenly flashed on the screen. By means of a peculiarly constructed diaphragm in front of the two upper lenses, a beautiful blending effect can be produced, and the clouds near the edge of screen are so blended that there is no sharp line of light; and figures, thrown on the screen apparently come out of dense clouds and pass off, in the same manner. The lenses are achromatic, of special construction, with so short a focus they will cover a screen forty-six feet wide, when the instrument is placed at a distance of 36 feet. This can be done at an angle of 45 degrees, which allows the instrument to be used back of the flies of a theater stage. We believe this is the first instrument ever made to do this work and to produce these effects. Not only the effects described above, but a great variety can be produced by this combination. This Stereopticon can also be used for producing effects obtained by such lecturers as Stoddard, Philip Phillips, Ragan and others. Each lantern has mechanical platinum tipped jets, triple four and one-half inch condensing lenses, and special achromatic objectives, or magnifying lenses. The tubes holding the lenses and condensers are of brass, finely lacquered. The body of the Stereopticon, triple-key, etc., are all finely nickel-plated. The price of this instrument complete, as described, in case, \$500.00.



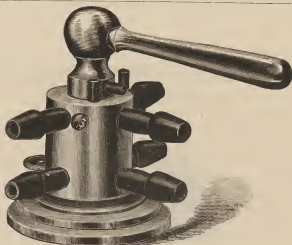
## AN INSTANTANEOUS DISSOLVING SHUTTER.



In presenting this unique contrivance to the exhibitor, we are confident that we will both surprise and please him. A great many experiments by different lantern-makers in years past, have been made trying to find some device that would accomplish what we have finally succeeded in doing with this Dissolving Shutter. It is a simple mechanical contrivance so arranged that by simply turning a lever you instantaneously take one view off the screen and replace with another which comes into exact focus ; and there is always time while explaining a view, to take out the old one and slip a new slide into the empty end of slide carrier or holder. This instantaneous Dissolving Shutter can be readily adapted to nearly any single lantern.

PRICE of Instantaneous Dissolving Shutter.....	\$20.00
Average cost of adapting Shutter.....	5.00

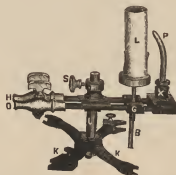
No charge for adapting to the McIntosh Sciopticon.



### DISSOLVING KEY, with Adjustable Valves.

PRICE.....\$14.00

This Dissolver is made especially for mixed gases, and works equally well with the ether-oxygen and oxy-hydrogen gases. It is finely fitted, accurately adjusted, and each one is tested before sending out. The method of making connections with the Lantern and Saturator is clearly shown in the diagram in Part II.



### ADJUSTABLE JET.

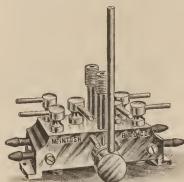
PRICE.....\$10.00

*R.* Platina-tipped Goose Neck.  
*X.* Mixing Chamber.  
*L.* Lime.  
*B.* Rod for raising or lowering lime.  
*G.* Sliding base, which regulates distance between lime and jet.  
*J.* Standard.

*F.* Collar sliding on the standard to regulate height of the light.  
*S.* Screw clamp that fastens the light at required height.  
*K, K.*  
*H.* Hydrogen Key.  
*O.* Oxygen Key.

This Jet can be adjusted to any style of lantern, and is adapted to the oxy-hydrogen and ether-oxygen gases.

## THE HIGH PRESSURE DISSOLVING KEY.



The Dissolving key for use with oxygen and hydrogen gases is of improved construction ; and with it more perfect dissolving effects can be accomplished than with anything heretofore manufactured. The professional lecturer and traveling exhibitor always uses cylinders or tanks to carry their gas in ; and into a cylinder 12 in. in diameter by 48 in. in height, as much as 50 cubic feet is compressed under enormous steam pressure. When using gas under this high pressure, it has been difficult heretofore to so establish the equilibrium of the gases to each lantern, and to regulate the supply of gas to each lantern, without darkening the screen somewhat when in the act of dissolving. With this new key this difficulty has been entirely obviated ; the gases are under such perfect control, the relative proportion so finely adjusted, that from the beginning to the close of the exhibition there is absolutely no difference in the brilliancy of illumination, no matter in what position the lever of dissolving-key may be ; whether on the lower or upper lantern or upon both at the same time. This has been accomplished by having each side of the dissolver entirely separate and distinct from the other, so that there is no admixture of the gases, and so regulating the flow of gas, that in

identically the same ratio of proportion that you diminish the intensity of the brilliancy of illumination, or technically speaking, the candle power of one lantern ; in an exactly corresponding proportion you increase the incandescence in the other lantern. This regulating of the supply and establishing the equilibrium of the gases can be made hours before the entertainment, so that when the time to light up comes, all that is necessary to do is to turn on a full head of gas at the cylinders and touch a match to the jet, and you are at once ready for exhibition without further adjustment.

PRICE complete with High Pressure Hose and Couplings.....\$50.00

## McINTOSH DOUBLE NEEDLE VALVE.



PRICE.....\$6.00

All of our cylinders are furnished with the McIntosh Double Needle Valve in place of the old style of Single Needle Valves. The threads on these valves being of standard size can be readily attached to nearly every make of cylinders. There being two needles, the establishing of the equilibrium of the gases is very easily accomplished. The Valve that has the wheel attachment being the fine adjustment, and the spindle in top of valve regulating supply from cylinder. In turning on gas see that the wheel valve is closed tightly; open the spindle one full turn, or turn on as much as is necessary, allowing the gas to come out on to the wheel needle valve; now with this latter valve establish the equilibrium, then, as the pressure goes down in the cylinders, all that is necessary to do is to open up the spindle of valve. In this way you can connect hours before your entertainment, and when ready to commence projecting, all you have to do is to open the main valve and light up, the adjustment already being controlled by the wheel valve.

## PORTABLE ADJUSTABLE EXTENSION SCREEN FRAME.



A practicable Portable Extension Screen Frame that can be adapted to all sizes of screens is a great desideratum to the traveling exhibitor. We furnish a portable sectional frame constructed as follows :

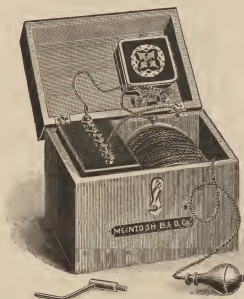
It is composed of the required number of sections, each section being three feet in length, one and a quarter inches in diameter, of tough, thoroughly seasoned whitewood. Two of the end sections have a sharp-pointed brad that stick into the floor so that it cannot slip or get out of position ; the other two end sections, each have a pulley let into the body of the section through which is carried the screen rope, and is attached to a small screw-eye in the floor in a line with the face of the screen, and at the proper distance from the screen ; then two guy-ropes at each side of the screen, one extending forward and one backward, serve to hold the screen immovably in place. This device answers admirably for screens up to twenty feet square. Larger screens than this require a heavier frame.

PRICE, per section .....\$0 50

### • • • PRICE LIST OF SCREENS. • • •

7 feet Square.....\$ 5 00	15 feet Square.....\$10 00
8 " " ..... 5 00	18 " " ..... 12 50
9 " " ..... 5 00	20 " " ..... 16 00
10 " " ..... 5 00	24 " " ..... 20 00
12 " " ..... 7 00	30 " " ..... 25 00

## THE LECTURER'S ELECTRIC SIGNAL.



The Lecturer's Telegraph or Electric Signal is something that the lecturer must have. He must have some means of communication with his operator. The old methods of communication have been by means of a small bell ; or by the disclosing of the colored signal light in the lecturer's reading lamp ; and in some cases if the lecturer uses a pointer, he holds it in a certain position on the screen ; sometimes he taps the floor ; but there are serious objections to all these methods, as they attract the attention of the audience from the lecture, and by apprising them of the change of views frequently mar an otherwise beautiful dissolving effect.

This Electric Signal consists of a battery of zinc and carbon elements, the only chemical used is the ordinary sal ammoniac, to which water is added, so that the battery is a perfectly clean one; no disagreeable odor ; no acid to slop over and ruin the clothing, very easily kept in order, and very inexpensive, costing less than 1 cent an hour ; it also has what is called an "Electric Buzzer" and the sound of which can be so regulated as to be

heard by the operator alone ; 100 ft. of conducting wire, and a push button to be held in the hand of the lecturer. We put this signal up in two grades ; the cheaper with ordinary annunciator wire ; the better grade in a tinsel flexible cable cord covered with a braiding of mixed silk and worsted, that winds on a spool as easily as ordinary cord.

PRICE with 100 ft. ordinary annunciator wire.....\$10.00  
 " " 100 ft. flexible cable cord.....12.50

## IMPROVED READING LAMP.



The ordinary Lecturer's Reading Lamp is used with a candle and does not give a good light. The Reading Lamp like above cut is furnished with a miniature oil lamp. Kerosene oil is used. When through using, it only takes a moment to remove the burner and fasten it tightly with a soft rubber cork so that there is no danger whatever of any leakage, and the burner and chimney packs snugly into the hood of the lamp. The call-bell has been done away with, as its use in signaling the operator is annoying, and detracts from the interest of the lecture. It is provided with a colored light signal that answers every purpose. This lamp affords sufficient light so that a type-written or manuscript lecture can be easily read, and at the same time will not illuminate the hall or screen.

PRICE, packed in a neat wooden box..... \$5.00

## THE LECTURERS' READING STAND.



### LIGHT, COMPACT, CONVENIENT, PRACTICABLE.

We make two styles of these portable Reading Stands; one a low priced stand, of Japanned iron, and the other a more elaborate stand of brass, telescoped, finely nickel plated. The cheaper stand is similar to those used by musicians. Both have an inclined rack to hold the manuscript; either stand will hold our Lecturers' Reading Lamp. It can be adjusted to any desired height. Having a sharp pointed screw it can readily be screwed into the floor.

PRICE Japanned Iron.....	\$ 3.00
"    Nickel plated Brass.....	12.00



## SLIDE PROTECTOR.

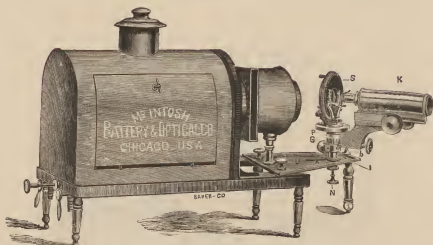


A new departure from the beaten track is our new "Slide Protector." The above illustrations represent this latest novelty, with the round-cornered square and the circular opening. The former is  $2\frac{7}{8} \times 3$  inches, and the latter 3 inches in diameter. They will accommodate slides  $3\frac{1}{4} \times 4$  inches, or the English size,  $3\frac{1}{4} \times 3\frac{1}{4}$ , and, moreover, an exhibitor possessing a number of slides mounted in wood can take them from the wood frames and place them in these tin protectors with perfect ease by simply using wood or cardboard fillers at the ends to prevent slipping out of center.

By this means one can do away with the bulky wooden frames and secure a uniformity in the size of all his slides—a great desideratum, as all lecturers and exhibitors know. Besides securing perfect safety from loss by breakage in transportation, slides thus framed will stand almost any amount of rough usage. These protectors are made of light-weight tin, fitting together one side over the other, the edges being bent to fit closely. In placing these on the market we do not ask an extravagant price, but have marked them at a low figure, placing them within the reach of all consumers alike, feeling sure that they will find appreciative and ready purchasers.

PRICE, per hundred..... \$6 00

Sample on receipt of 8 cents in stamps.



### Dr. McIntosh Microscopic Attachment.

For use with Solar or Artificial Light, for Projecting, or Photographing Microscopic Objects, with Oblique Illumination, or Projecting Opaque Objects.

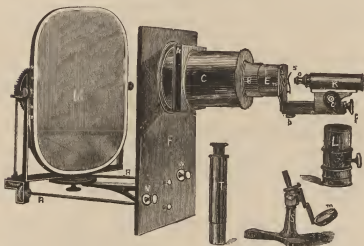
This attachment is constructed as follows: To the base plate of the Combination Stereopticon is clamped a triangular piece of brass *U*, by means of thumb screws; near its apex is a slot to hold the removable pillar *I*; this pillar is slotted on one side and has a screw and clamp *G* to hold the perpendicular pinion *P*, which in turn receives the stage and working parts of the Professional Microscope Stand, which is clamped by means of the screw *G*.

The stage and body tube of the Microscope can be raised and lowered with the screw *N*. The pinion *P*, in the pillar *I*, allows the Microscope to be rotated horizontally to the right or left. The center of an object on the stage corresponds with the center of motion. By means of this rotation, any angle, either of solar or artificial light, can be obtained for photographing and projecting, also projecting Microscopic objects, or projecting with transmitted light.

This attachment can be connected with the solar instrument, and adjusted the same as for artificial light. For photographing Microscopic objects, a camera box must be connected with the Microscope tube *K*.

Price of Attachment.....	\$ 35.00
" Stereopticon .....	100.00
" McIntosh Professional Microscope.....	100.00
" Plain Microscope Attachment, to be used with above attachment .....	25.00
Price, with 1½ inch Objective.....	45.00

# SOLAR MICROSCOPE AND STEREOPTICON COMBINATION.



## DESCRIPTION OF SOLAR COMBINATION.

*F* is a frame of wood fastened in an open window.

*M*, the mirror attached to the frame on the outside of the window.

*RR*, Rods which work the mirror on a vertical and horizontal axis by means of spur-wheel gears.

*V*, Thumb-wheel, which turns the mirror vertically.

*K*, Thumb-wheel, which turns the mirror horizontally.

*A*, Stage, through which the slide holder is passed when the Stereopticon lens is employed.

*a, a*, Spring clips, which hold the slides when the Microscope Attachment is employed.

*C*, Brass cell, holding the condensers.

*B*, Brass collar supporting the tube *E*.

*E*, Sliding tube for changing the focal distance between the condensing lens and the objectives.

*K*, Microscope attachment.

(The cut of the Combination Stereopticon, on preceding page, shows the same front with a Stereopticon lens.)

*O*, Objective.

*N*, Secondary Condenser, which is inserted in the sub stage ring of microscope.

*C*, Screw for coarse adjustment.

*f*, Screw for fine adjustment.

*b*, Screw which fastens the microscope on its stand *S*.

*T*, Microscope tube, with eye-piece.

*L*, Stereopticon Lens.

*S*, Microscope Stand.

*M*, Mirror.

**PRICE** of Solar Microscope and Stereopticon complete, as follows: One large adjustable Mirror, for reflecting sunlight through the condensing lens; one  $4\frac{1}{2}$  Condensing Lens, set in large polished brass tube, with draw tube and space in large tube to receive the Stereopticon slides, one Secondary Condenser; one Stereopticon Objective, with two achromatic combinations, for high and low power; one Solar Microscope; one Stand and Draw Tube, to use the Solar as a monocular; one A and C eye-piece,  $1\frac{1}{2}$  inch and  $\frac{1}{2}$  inch first-class Microscopic Objectives.....\$200.00

McIntosh Combination Stereopticon, without optical part, with first-class adjustable jet for mixed gases .....\$50.00

To employ the brass front of the McIntosh Stereopticon for Solar Projection, it is necessary to remove the condenser next the light, using only one condensing lens with the stereopticon lens *L*. For

Microscope Projection it is necessary to insert a secondary condenser in the sub stage ring of the microscope attachment before fastening it to draw tube *E*.

**The Solar part of this Combination** consists of a mirror, moved by spur-wheel gears in such a way that a beam of sunlight reflected from it can be kept in the same direction all day, if needed so long. The room in which it is used should have, preferably, a southern aspect, although an east or west one will answer for a few hours daily. The frame, *T*, should exactly fit into the window frame when the sash is raised or lowered (according as the lower or upper part of the window is most convenient), and the light should be excluded from the room.

**To Darken the Room.** Any plan may be adopted that will exclude the light. In our exhibition room the windows have opaque shades, and heavy canton flannel curtains draped back, to admit light. To darken the room the shades and curtains are lowered in a moment. We find this very convenient, and it is a method well adapted to the class-room.

**To use the Solar as a Stereopticon.** Fix the frame as already described, and revolve the mirror until a beam of light is thrown through the opening in the frame upon the center of the screen; fasten *C* to the frame, and attach *L* to the sliding tube *E* (in place of microscope attachment *K*, shown in cut). The sliding tube should be moved back so as to shorten the focal distance between *C* and *L* as much as possible. Insert the slide (inverted) in opening *A* and its magnified image will appear on the screen. If the outlines are not distinct adjust the focus by means of the wheel on *L*.

**To use as a Solar Microscope.** Remove *L* and attach *K* as shown in cut. The focal distance between condenser and the microscope objective needs to be greater than when the stereopticon lens is used, therefore draw out *E* two or three inches (this distance varies with different objectives), until a bright, white disk appears on the screen. Insert the slide upon which the object to be examined is mounted inside the spring clips *ss*, and focus the image on the screen by means of *c*. When very delicate specimens are to be examined, it is advisable to employ an alum tank to absorb the heat rays.

**To transform the Solar into a Monocular Microscope.** Remove *K*, and fasten it upon the stand *S* by the screw *b*. Slide the draw tube *T*, which carries the eye-piece into the solar tube *K*, and it is ready for use. The stand is solid and carefully made, and can be used with objectives of high power. This microscope has the Society Screw and the broad Butterfield Gauge, so that any objectives having the same can be used with it.

As sunlight is much more powerful than any artificial light, and costs nothing, the advantages of this apparatus are obvious. If sunlight were always available, nothing more would be needed ; but since the investigator, the instructor and the exhibitor will frequently have occasion to use it with artificial light, the inventor has made his Combination Stereopticon, so that the optical parts are interchangeable with those of the Solar Apparatus. Ether-oxygen or the oxy-hydrogen lime light may be employed, and will probably remain the best substitutes for sunlight until considerable advance is made in the production of the electric light in a more economical and convenient form than at present.

---

## OBJECT TEACHING.

Teaching by illustration has become an established practice of our day, and no instructor can afford to neglect object teaching. The principal obstacle in the way of its more universal application is paucity of the school fund, or a failure of the school board to realize the necessity for suitable apparatus. It is customary for teachers to extemporize apparatus, and in a crude way attempt to aid the eye in making plain many branches of study. This is certainly a help to the pupil in understanding the text book, yet it falls far short of what may be accomplished by suitable aids. In this practical age little value is attached to knowledge that cannot be transformed into capital to achieve some useful purpose, and any measures are certain to be appreciated which not only tend to fix in the memory the dry facts of the arts and sciences, but at the same time reveal their practical application. As an incentive to study experimental work is of the highest importance. This point cannot be better illustrated than by reference to experiments the writer witnessed when a boy. Having learned "by heart" from a text book on philosophy the properties of matter, none of which produced any deep impression at the time, he chanced to witness the death of a little mouse, which had been placed under the receiver of an air pump, from which the air was exhausted ; also the bursting of a glass flask from the same cause ; and had his hand held by atmospheric pressure on an opening in a glass jar so firmly that he was unable to remove it, until air was allowed to enter the vessel. These experiments made such an impression on his mind that for days he thought of little else, and ever after Philosophy was a new book to him. Many times had he looked at the starry heavens, and had constellations and stars pointed out to him, but it produced only a passing notice. But when he chanced to look through a telescope and beheld the planet Saturn and its rings, astronomy was

presented in a new light. It became a pleasure rather than a task to study it. On beholding for the first time a drop of water under a microscope he was astonished at seeing the myriads of living forms, it opened to him a new world of wonders and new desires to study; that boy, though too poor to purchase a microscope at the time, never neglected an opportunity to learn what he could in the department of microscopy, and was never satisfied until he was owner of the coveted prize. The above reference is made simply to show that ideas conveyed to the mind through the eye produce an impression as much stronger on the mind as reality is stronger than a dream. We forget common conversation, descriptions of places and things, but when we visit them, and their forms are conveyed to our mind through the medium of our eyes, they are indelibly impressed on our memory.

This is the reason why object teaching yields such grand results. Many children cannot retain ideas which they receive through the medium of books, but when they are accompanied with illustrations the mind easily comprehends the description and retains it.

A want has long been felt by teachers and scholars for some way to illustrate without costly charts and maps, which occupy so much space and are so easily destroyed. This want has been fully met by Dr. McIntosh's Solar Microscope and Stereopticon Combination.

Lessons in drawing may be given by copies prepared upon glass by the teacher, and the light of the room may be sufficient to permit the pupils to work.

Geography, usually so dry and uninteresting to pupils, may be made not only instructive but amusing, by accompanying the text book lessons on the various countries with well selected views of the prominent points of interest, the inhabitants, their customs, occupations, architecture, manufactures, and products of the soil.

Natural history may be illustrated by views of birds, rats, mice, squirrels, frogs, toads, live fishes in tanks with transparent sides. The classifications, resemblances and differences existing in the animal kingdom may be made plain by life-like representations of the various objects of study, more conveniently even than when access can be had to well stocked museums, which are unfortunately too rare to supply the needs of the mass of pupils engaged in studying these subjects.

The demand of instructors for illustrations on these subjects have led the manufacturers of slides to provide a large assortment, which represent almost all the phenomena that are required for school room or college purposes. Special slides to illustrate additional points can be made to order, and glass cells furnished at small cost, which will

enable the instructor to prepare, as needed, specimens of the vegetable and insect world, as they exist in his immediate vicinity.

Geological specimens such as crystals of quartz, feldspar, mica, pyrites and other minerals, may be shown as well as diagrams or maps, of various strata, formations, etc.

Botanical specimens, especially the structure of plants, the germs and minute forms of vegetable life, offer an infinite variety of objects suitable for projection. It is impossible to do more than to refer briefly to a few of the applications of Projection Apparatus, the field of its usefulness extends to every branch of science.

With our Solar Combination it is possible to magnify an object one thousand diameters or a million areas, and still have it so well lighted that a large audience can see it plainly. A view of any given locality may be displayed, and the flora or fauna be projected upon it. The microscopic organisms can be shown on a large field, which affords opportunity to study their actual life, surrounded by their natural media.

**List of Articles suitable for Projection.** Hairs of animals, held between two pieces of glass; down from wings of moths and butterflies, (these adhere to glass without pressure); scales of fishes; eyes, legs, wings of flies; whole insects; stings of bees and wasps; antennæ of moths and mosquitoes; fibres of cotton, wool, silk, linen, ferns, mosses, lichens, leaves of trees; thin sections of wood; small flowers, stamens, pistils, pollen, seeds; mites in cheese; vinegar and paste eels; butterflies, beetles; animalcules in stagnant water; crystallization of camphor, indigo; sulphate of copper; diatoms; mould, and most microscopic preparations. Suitable objects may be found everywhere; in stagnant pools, in vases where flowers have remained a day or two; an infusion of hay; in most fermented liquids. The larva of a mosquito is a lively and amusing thing when magnified five or six feet in length. Histological research may be facilitated, and its results exhibited on a large scale.

**Miscellaneous Subjects that may be Illustrated by Projection.** Porosity, cohesion, divisibility of matter, capillarity; crystallization, as in ice flowers, lead, tin or silver trees; gravitation; acoustics; reflection and refraction of light; chromatic aberration; rainbow, mirage; dispersion; Newton's rings; recombination of white light; absorption bands; spectrum analysis; fluorescence; polarization of light; diffraction; formation of clouds; maximum density of water: galvanometer, calorescence, magnetism, diamagnetism, electricity; decomposition of water; heating by the electric current; acid and alkaline reactions; precipitation; equilibrium of liquids;

artesian diver, hydrometer; diffusion of gases; fountain in vacuo; siphon; pyrometer; Torricelli's experiment; Marriotte's law; the manometer; Sprengel's air pump; influence of pressure on boiling point; conductivity of solids; convection; thermo-pile; umbra and penumbra; action of magnets; attraction and repulsion from electrical excitation.

By means of diagrams and photographs the most recent inventions in the arts can be illustrated and explained. The apparatus we have described is adapted to daily use in all schools and educational institutions, and we confidently claim that it will, when intelligently employed, arouse greater interest, and afford a more valuable and varied means of illustration than many times its cost invested in other apparatus designed for object teaching.

## TESTIMONIALS.

We have many inquiries in regard to the utility of the solar microscope and stereopticon in the illustration of scientific and popular lectures before classes of students and public audiences. In answer, we give a few of the many notices received.

*From Philadelphia Medical and Surgical Reporter. Report of American Medical Association, held at St. Paul, Minn.*

The last paper at the morning session was read by Dr. H. O. Marcy, of Boston, who had for his subject "Uterine Tumors." The method by which the lecture was demonstrated, the means used being a solar microscope and stereopticon, excited a large degree of interest, owing to the wonderful clearness and brightness of the subjects cast upon the screen.

After the termination of the lecture, in obedience to the expressed wish of many of the physicians, the inventor, Dr. L. D. McIntosh, of Chicago, explained fully the principles of this solar microscope, an explanation that was listened to with much interest and close attention. This solar microscope may truly be considered a great aid to scientific investigation. By its aid physiology, pathology, histology can be studied, with illustrations of genuine sections. The circulation of the blood can be mirrored forth with startling distinctness; images of living animalculæ, minute insects and aquatic animals, with all their motions, thoroughly portrayed, and in cases where they are transparent the beating of heart and movement of the internal organs are vividly shadowed forth upon the canvas in a degree of perfection almost beyond belief. It is a combined instrument, and can be used as an ordinary monocular microscope and as a stereopticon. It is, however, very simple in its arrangement, there being no complicated parts that are liable to get out of order. The stereopticon proper is similar in appearance to the ordinary stereopticon, sunlight, however, being used instead of artificial light. This combination adds much to the value of the

invention, and its utility is very largely enhanced. Its use is not confined to physicians and scientists, for it is an instrument that should be in all educational institutions of the higher grades. Its use as a means of instruction is of great value, as an object can be shown with equal facility to a large class or audience as to a single person. In the matter of economy, without taking into consideration the superiority of its work, it is in advance of the ordinary stereopticon, as sunlight is cheaper than artificial light. Another feature is that it is exceedingly portable, and can be placed in position in a very short time. The ordinary power is that of 500 diameters, although, with higher objectives, it is capable of attaining a power of 1,500 diameters. Taken altogether, it is truly an invaluable invention, and its use will be of an extended nature.

*From Martins' Druggists' Directory.*

*Report of the American Medical Association and Exhibits.*

RICHMOND, VA.

Dr. L. D. McIntosh, of Chicago, occupied a prominent share of the interest taken in the exhibition. One of the most interesting features was a view shown with his solar microscope of a live frog's foot, showing the circulation of the blood through the veins and arteries.

MORRIS, ILL.

*To whom it may concern:*

During the past year I have used Dr. McIntosh's Solar Microscope and Stereopticon in connection with school work. I recommended our Board of Education to purchase this instrument because I believed it would furnish an excellent means for a vivid illustration of topics in several subjects, and give pupils an added interest.



the subjects themselves. I am well pleased with the result. Our pupils in geography have gone with me on imaginary journeys to cities and bodies of water, about which they had studied in the text-book, and not only have they been delighted during the hour thus employed, but they have been better fitted for further study. The Stereopticon has been found exceedingly helpful also with classes in ancient and modern history, and in astronomy.

The Solar Microscope I have found to be of especial benefit to our classes in physiology and zoology, because with it images of sections of animal tissue, mounted specimens of insects and living animalcules can be thrown upon a screen, and shown at once to an entire class. If Boards of Education will purchase this instrument, and if teachers will use it, I am sure that the money expended, and the necessary time employed, will not be wasted.

L. T. REGAN, Sup't Public Schools.

From the Milwaukee Evening Wisconsin.  
*Wonderful Exhibitions.*

*Microscopic Illustrations by means of a Solar Instrument at this morning's session of the State Dental Society.*

The principal interest this forenoon centered in the microscopic illustrations by Dr. L. D. McIntosh, of Chicago. They were exhibited by means of a solar microscope, and the exhibition was a rare treat. The best views were the showing of the circulation of blood in a pollywog, and the muscular contraction of a water mosquito. The exhibition was pronounced the most beautiful and perfect ever witnessed. The lenses magnified 700 diameters, and the blood could be plainly seen coursing through the venous and arterial system of the pollywog, displayed on a screen. The muscular contractions illustrated by the water mosquito were wonderful. The insect had been starved in clear water, and then was placed in turbid water under the glass. He at once commenced to feed in a manner that carried terror to the hearts of the animalcules, and also soon seemed to fill himself, for after springing upon a number of germs, he quieted down. The expansions caused by breathing could be plainly seen, and the actions of his muscles when he sprang, cat-like, were wonderful to behold.

From the Chicago Tribune.

*Seventh Annual Convention of the Western Academy of Homœopathy.*

Dr. McIntosh entertained the academy with the exhibition of a solar microscope, operated on this occasion with an oxy-hydrogen light. Numerous sections of the lining membranes of the internal organs were exhibited, and other portions of the minute anatomy shown, a most interesting feature of which was the admirable representation of the circulation of the blood in the capillaries. Several insects were thrown

on the screen, and an idea of the high magnifying power of the instrument will be given by the fact that a bedbug appeared precisely six feet long, and the wing of a fly twenty feet.

From American Journal of Microscopy.  
*Illinois Microscopical Society.*

The annual meeting of the Illinois State Microscopical Society was held at the rooms of the Academy of Sciences, Chicago, April 22, 1881. The minutes of the previous meeting having been read, the Society was then entertained by Dr. McIntosh, who exhibited a new and improved form of solar microscope, combining an oxy-hydrogen attachment. The histological slides shown by this apparatus were fine, and called forth very general admiration.

From the Southern Clinic, Richmond.

*Report of American Medical Association and Exhibits.*

Dr. McIntosh, of Chicago, exhibits a line of Microscopes, Solar Microscopes, Stereopticons, etc. This is an elegant display, and Dr. McIntosh has given some beautiful exhibitions with his Solar Microscope, showing histological and pathological specimens.

From the Richmond Dispatch.

Dr. L. D. McIntosh, of Chicago, Ill., has on exhibition his Solar Microscope, a stereopticon combination. This instrument can be used as a common microscope, or as a solar in combination with the stereopticon. The Doctor gave an exhibition last night of the Solar Microscope, with the aid of the oxy-hydrogen light at Exhibition Hall, which was largely attended by members of the association.

From the Pioneer Press, Albert Lea.

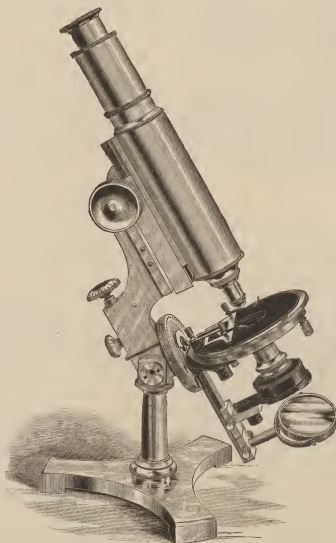
*Report of the Twelfth Annual Meeting of the Minnesota State Medical Society.*

The State Medical Society opened its twelfth annual meeting this morning. In the afternoon Dr. McIntosh gave a very interesting exhibition with his Solar Microscope, and exhibited many anatomical specimens.

From the Inter Ocean, Chicago.

*A Beautiful Piece of Scientific Mechanism.*

Teachers, scholars and all lovers of scientific knowledge should not fail, when visiting the Exposition, to see the McIntosh Solar Microscope and Stereopticon Combination. As a piece of mechanism, based on true scientific principles, it challenges the admiration of all thinking persons. Dr. McIntosh is to be congratulated upon the perfection of his instrument, and the hearty indorsement he is daily receiving for it from those who witness its wonderful workings.



## DR. McINTOSH PROFESSIONAL MICROSCOPE.

PRICE, with one Eye-Piece (no Objective), in handsome polished Mahogany Case.....\$ 65.00

PRICE, with two Eye-Pieces and two Objectives,  $\frac{1}{2}$  and  $1\frac{1}{2}$  inch, Physicians' Series..... 100.00

This Microscope, in its new and improved form, is the out-

come of years of experiment to perfect an instrument adapted to the higher grades of work, that could be furnished at a more moderate price than has hitherto been obtainable.

The mechanism is perfect, and finely finished; the arrangements for using all necessary accessories are ingenious and convenient, nothing essential being wanting to make it fully equal to all the demands of professional microscopic investigation. The base is broad and sufficiently heavy to secure firm and steady support; it is provided with soft rubber pads beneath to overcome the ordinary vibratory motion of the table and prevent scratching. The pillar and arm are of solid brass, and the joint connecting



them has strong steel bearings. The arm can be removed from the base by loosening the thumbscrew at the back, and the working part of the instrument may be removed for use as a solar microscope, or with the stereopticon for projection. By reference to the diagram the parts are shown separated, K representing the instrument with stand S and draw-tube T removed; the adapter for connecting with Solar Apparatus or Lantern is beneath the stage, but not shown in cut. The device for connecting the stand and arm is independent of the joint, and does not interfere with its movement or weaken it in the least. This is a feature of our Professional Microscope exclusively; the method of fastening R in arm A secures perfect solidity and freedom from motion or unsteadiness as complete as if they were united by a solid junction. The height of stand with draw-tube closed is 15 inches; with draw-tube open, 18 inches. Diameter of body-tube  $1\frac{1}{2}$  inches. The size of this tube adapts it to projection, or photography, as the rays of light passing through the objective are not cut off. It has the Society Screw and the broad Butterfield Gauge, which will admit of using objectives of low power with large lenses of wide angle, and also a large analyzing prism.

Inside the body-tube is an extra spring-tube, carrying a nickel-plated draw-tube: this device insures an even, smooth movement of the draw-tube. The inside diameter of the latter is  $1\frac{1}{4}$  inches, length 7 inches; the lower end has the Society

Screw, which allows the use of objectives of the lowest powers, having long working distance. The size of draw-tube is the same in all standard instruments, therefore an eye-piece of standard size can be used. The coarse adjustment is made with a very smooth-working rack and pinion of long range. The fine adjustment is unequaled; it is without friction, and being adjustable has a very delicate movement that is not liable to get out of order. It is made with a large, graduated milled head micrometer screw, which moves the entire body-tube parallel with the axis of the objective. The large, concentric, rotating stage consists of a brass frame, in which is set a circle of plate glass forming the upper surface of the stage. A slide carrier moves on this plate over the field of the lens, and is held in position by ivory points pressing upon the glass plate forming a part of the carrier; this gives very smooth motion, and reduces friction to a minimum. Beneath the stage are adjusting screws. The mirror-bar moves on a graduated circle, carrying the sliding mirror, diaphragm, sub-stage, adapter, etc. The bar swings above the stage for illuminating opaque objects. The Durkee Electric Illuminator may be attached to this bar if desired. Special attention is called to the device already described, whereby the working parts are convertible into a solar or projection microscope. Photomicrography, which is now popular with microscopists, becomes convenient with this microscope and a suitable camera. Instantaneous photographs of living animalculæ can be made with direct sunlight, therefore it is evident that an instrument that can be adjusted to this work without impairing its value as a monocular, offers special advantages to the naturalist and investigators generally. We furnish to order objectives adapted to all the various forms of work to which this instrument can be applied, whether for individual study of minute structures and organisms, for projection, or photo-micrography.

**MCINTOSH NEW CLINICAL MICROSCOPE No. 1.**

Price, with one eye-piece, in case, no Objective.....	\$20.00
Price, with one eye-piece, in case, one-fourth, one-half, and one inch Students' Dividing Objective, giving 100, 200 and 350 diameters....	28.00
Price, with one-fourth and one inch Objective, giving 100 and 500 diameters.....	32.00

**MCINTOSH NEW CLINICAL MICROSCOPE No. 2.***With Rack and Pinion Movement.*

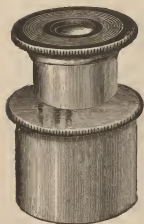
Price, with one eye-piece, in case, no Objective.....	25.00
Price, with one eye-piece, one-fourth, one-half and one inch Dividing Students' Objective, giving 100, 200 and 350 diameters.....	33.00
Price with one-fourth and one inch Dividing Objective, giving 100 and 500 diameters.....	37.00

**SCIENTIFIC MICROSCOPE No. 1.**

Price of stand with one eye-piece (no objective).....	35.00
Price, with one eye-piece, and one-fourth and one inch Dividing Objective.....	47.00

**SCIENTIFIC MICROSCOPE No. 2.**

Price, with one eye-piece (without objective).....	45.00
Price, with one eye-piece and one-fourth and one inch Dividing Objective.....	57.00

*For further particulars send for our Microscope Catalogue.***EYE PIECES.**

Huyghenian Eye Piece.  
Price, \$4.00.

Our Eye Pieces are of the form shown in the engraving, and are carefully constructed. They give a large, flat field, and are designated by numbers according to the equivalent foci of the lenses. The draw-tubes of our microscopes are all of the same diameter, therefore the Eye Pieces are interchangeable. We furnish them to order, with a slot to receive a micrometer. We furnish solid Eye Pieces of best quality, mounted, for \$6.00 each. Periscopic Eye Pieces consist of a triple eye lens and double convex filed lens, having a large, flat field, showing a sharply defined image to the

extreme edge. We can furnish them from \$10.00 to \$24.00 each.

**DIRECTIONS FOR ORDERING EYE PIECES.**

The best method of giving the exact measure is to wind a strip of writing paper about the tube and trim it off so that the two ends just meet.

## First-Class Achromatic Microscope Objectives.

ALL MOUNTED WITH SOCIETY SCREW.

### Wales' Objectives—Economic Series.

1 $\frac{1}{8}$ inch, angle 15°.....	\$6.00	1 $\frac{1}{8}$ inch, angle 80°.....	\$12.00
1 $\frac{1}{8}$ " " 20°.....	6.00	* 1 $\frac{1}{8}$ " " 120°.....	20.00

\* Immersion.

### Wales' Objectives—Physician's Series.

1 $\frac{1}{8}$ inch, angle 23°.....	\$15.00	* 1 $\frac{1}{8}$ inch, angle 135°.....	\$25.00
1 " " 30°.....	15.00	1 $\frac{1}{8}$ " " 150°.....	30.00
1 " " 100°.....	20.00		

\* Immersion.

### Wales' Objectives—First Quality Lenses.

4 inch, angle 9°.....	\$15.00	1 inch, angle 100° Adjustable,	\$30.00
3 " " 12°.....	17.00	1 $\frac{1}{8}$ " " 135° " "	35.00
1 $\frac{1}{2}$ " " 23°.....	17.00	1 $\frac{1}{8}$ " " 170° (Adjustable Immersion) ..	40.00
1 " " 25°.....	17.00	1 $\frac{1}{8}$ " " 170° " "	45.00
1 $\frac{3}{8}$ " " 30°.....	17.00	1 $\frac{1}{8}$ " " 170° " "	60.00
1 $\frac{1}{4}$ " " 75° Adjustable	30.00	1 $\frac{1}{8}$ " " 170° " "	65.00
1 $\frac{1}{4}$ " " 95° " "	35.00	1 $\frac{1}{8}$ " " 160° " "	100.00
1 $\frac{1}{8}$ " " 115° " "	40.00		

## GUNDLACH'S OBJECTIVES FOR PENETRATION.

### Class A.—Triplet.

1 $\frac{1}{2}$ inch, angle 18°.....	\$6.00	3 inch, angle 11°.....	\$8.00
2 " " 15°.....	6.00	4 " " 8°.....	8.00

### CLASS B.—DIALYTIC.

#### No. 1.—Non-dividing.

1 $\frac{1}{2}$ inch, angle 40°.....	\$10.00	1 inch, angle 40°.....	\$15.00
1 $\frac{3}{8}$ " " 36°.....	10.00	1 " " 36°.....	20.00

#### No. 2.—Dividing.

3 and 5 in., angle 13°, 8°... \$20.00	2 $\frac{3}{8}$ and 1 in., angle 25°, 15°... \$6.00
2 " 4 " " 18°, 10°... 20.00	" 1 " " 27°, 16°... 7.00
1 $\frac{1}{2}$ " 3 " " 24°, 13°... 18.00	" 1 " " ..... 12.00
1 " 2 " " 24°, 13°... 12.00	" 1 " " ..... 20.00

The front system of these objectives can be removed, and the back system is the objective of the second named power.

### Class C.—Aplanatic.

1 inch, angle 26°.....	\$25.00	1 $\frac{1}{2}$ inch, angle 50°.....	\$20.00
1 $\frac{1}{2}$ " " 43°.....	25.00	1 $\frac{1}{4}$ " " 60°.....	20.00
1 " " 72°.....	40.00	1 $\frac{1}{4}$ " " 80°.....	25.00

The objectives of this class are specially constructed for projection and photography, and are unrivaled for the purpose.

**GUNDLACH'S OBJECTIVES FOR RESOLUTION.****Three System. No. 1.—Dry Working.**

1 inch, angle 85°.....	\$80.00	* $\frac{1}{8}$ inch, angle 80°.....	\$16.00
$\frac{1}{2}$ " " 110°.....	50.00	† $\frac{1}{8}$ " " 135°.....	22.00
* $\frac{1}{4}$ " " 80°.....	20.00	† $\frac{1}{8}$ " " 150°.....	30.00
* $\frac{1}{8}$ " " 75°.....	14.00	† $\frac{1}{16}$ " " 135°.....	40.00

\* Very long working distance; the  $\frac{1}{8}$  works through three ordinary Møller slides.

† Adjustable for thickness of cover.

**No. 2.—Water Immersion.**

$\frac{1}{8}$ in., angle 105° W.D., $\frac{1}{16}$ in.	\$22.00
$\frac{1}{16}$ " " 105° " $\frac{1}{16}$ "	26.00
$\frac{1}{16}$ " " 105° " $\frac{1}{8}$ "	35.00

**No. 3.—Glycerine Immersion.**

* $\frac{1}{8}$ in., angle 105°.....	\$30.00
$\frac{1}{16}$ " " 110°.....	25.00
$\frac{1}{16}$ " " 110°.....	40.00

\* Non-adjustable. All the rest in this series are adjustable.

**Four System.—Homogeneous Immersion.**

$\frac{1}{8}$ in., angle 136° W.D., $\frac{1}{16}$ in.	\$90.00	$\frac{1}{16}$ in., angle 136°, $\frac{1}{16}$ in....	\$120.00
$\frac{1}{16}$ " " 136° " $\frac{1}{16}$ "	80.00	$\frac{1}{16}$ " " 136°, $\frac{1}{8}$ "....	160.00
$\frac{1}{16}$ " " 136° " $\frac{1}{8}$ "	90.00	$\frac{1}{16}$ " " 136°, $\frac{1}{32}$ "....	220.00

Numerical aperture of each 1.40. They are furnished with an adjustable mount, moving the back system only, and being free from lost motion. We give a hemispherical lens with them for oblique illumination.

**Bausch & Lomb.—First Quality Objectives.**

3 inch, angle 16°.....	\$18.00	* $\frac{1}{8}$ in., angle 180° immersion	\$70.00
2 " " 22°.....	18.00	* $\frac{1}{8}$ " " 180° " "	75.00
1 " " 45°.....	25.00	* $\frac{1}{16}$ " " 180° " "	80.00
$\frac{1}{2}$ " " 98°.....	30.00	* $\frac{1}{16}$ " " 180° " "	90.00
$\frac{1}{16}$ " " 110°.....	34.00	* Can be used either with glycerine or water; also dry.	

All the above objectives of higher power than half-inch, are adjustable for thickness of cover.

**Bausch & Lomb.—Professional Objectives.**

$\frac{1}{2}$ in., angle 10°.....	\$13.00	$\frac{1}{8}$ in., angle 125°.....	\$24.00
3 " " 12°.....	13.00	$\frac{1}{16}$ " " 165°, immersion	23.00
2 " " 15°.....	13.00	$\frac{1}{8}$ " " 170° " "	25.00
1 " " 36°.....	15.00	$\frac{1}{16}$ " " 170° " "	28.00
$\frac{3}{4}$ " " 40°.....	15.00	$\frac{1}{16}$ " " 175° " "	30.00
$\frac{1}{2}$ " " 65°.....	18.00	$\frac{1}{16}$ " " 175° " "	35.00

All the above Objectives of higher power than half-inch, are adjustable for thickness of cover.

**Bausch & Lomb.—Students' Objectives.**

4 inch, angle 3°.....	\$6.00	$\frac{1}{16}$ inch, angle 55°.....	\$11.00
3 " " 9°.....	6.00	$\frac{1}{16}$ " " 100°.....	14.00
2 " " 12°.....	6.00	$\frac{1}{16}$ " " 110°.....	15.00
1 " " 20°.....	6.00	$\frac{1}{16}$ " " 115°.....	18.00
$\frac{1}{2}$ " " 42°.....	9.00	$\frac{1}{16}$ " " 130°.....	24.00

**EYE-PIECES.**

$1\frac{1}{2}$ inch.....	\$4.00	$\frac{1}{8}$ inch.....	\$4.00
1 ".....	4.00	$\frac{1}{16}$ ".....	5.00
$\frac{3}{4}$ ".....	4.00	$\frac{1}{32}$ ".....	8.00

## MAGNIFYING POWERS—In Diameters for Tubes ten inches in length.

EYE-PIECE	OBJECTIVE.	2	1½	1	$\frac{2}{3}$	$\frac{1}{2}$	$\frac{1}{3}$	$\frac{1}{5}$	$\frac{1}{8}$	$\frac{1}{10}$	$\frac{1}{12}$	$\frac{1}{15}$
		in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
{	1½ inch ..	30.6	51.	69.	107.3	145.6	299.	372.3	605.6	759.	912.3	1219
	1 inch ...	44.	73.3	99.	154.	209.	429.	539.	869.	1089.	1309.	1749
	$\frac{3}{4}$ inch ...	57.3	95.5	129.	200.6	272.3	559.	702.3	1132.3	1419.	1705.6	2279

## THE CARE AND USE OF MICROSCOPIC LENSES.

The risk to valuable objectives from handling, by those unacquainted with the delicacy and care required to prevent serious injury, calls for some suggestions to those who are about to commence the study of Microscopy. A paper on this subject, read by William Wales before the New York Microscopical Society, contains so many good points we copy it entire:

“However good the lenses of an instrument may be, they will not do their best work except when properly cared for and properly used. Yet I have met with reputable microscopists who do not in practice appreciate this obvious truth. Let me show you how a lens is cleaned. My implements are four—an old, soft, silk handkerchief, a small stick of soft wood, a phial of alcohol, and a watchmaker’s glass of two powers. I have here an eye-piece. I will first examine it with the magnifying glass, by reflected light, to learn its condition. If it be found to need cleaning, alcohol is to be applied with the handkerchief. This liquid must not be allowed to touch the lacquer, but the cell which holds the lens will not be harmed by it, since that has been burned black with acid. If, after the cleaning, fibers from the cloth be found adhering to the lens, they may be blown off by a quick breath.

“I have brought an objective which was sent to me to be cleaned. I will attach it to an instrument, and will place under it a slide of familiar diatoms. Now view the object through the lens. It looks so obscure that you will all exclaim, ‘Well, this is a very poor objective;’ whereas it is of excellent quality, as you shall presently see. In it are eight pieces of glass. The back combination is composed of two crowns and the flint; the middle of a double concave flint and a double convex crown; the front of two crowns, with a flint between them. It has, probably, not been cleaned for twenty years. Suppose your watch to have been thus neglected! I will now clean this objective. I begin the work by unscrewing the cells. I then moisten a



part of the handkerchief with alcohol, and with the help, if needed, of the stick of wood in searching the corners, carefully clean each combination, and I then screw each cell back accurately to its place. The work is now finished, and I will attach the objective again to the microscope, and will again ask you to view the slide of diatoms through it. The dimness is now, you perceive, all gone. Indeed, you can hardly believe it the same objective, and you have ocular proof that cleanliness is essential to the best performance of a lens, and are witnessing an instance of the dependence of important results on attention to little things.

“Several years ago, while I was getting ready to visit England, the owner of a Powell and Lealand objective wished me to take the lens to its makers for correction or exchange. ‘It is a poor lens,’ he said. I could not credit his statement, for I knew the work of the Messrs. Powell and Lealand to be faultless. I called on those gentlemen. We examined the objective together, and discovered on one of the combinations a film of some substance which could not be removed except with alcohol. In five minutes the lens was clean and in perfect order; and to this day the owner refuses to believe that the lens which I brought back to him is the same that I took abroad. Never trust the cleaning of your objectives to the brass worker, or to any person who does not know how carefully a lens ought to be handled. The brass worker will polish the outside of the objective, but will get the lenses out of center. To my great disgust, I once found a brass worker subjecting one of my 4-10 inch lenses to that treatment. I asked, ‘What are you doing with that objective?’ ‘Putting it in order at the request of the owner,’ he said; ‘he wants to sell it.’ Taking the lens, I cleaned it for him without charge. A camel’s hair brush can neither completely nor safely remove the film of dust with which the exposed surface of the back combination of an objective is sometimes found to be coated. It will make a series of rings on the surface of the lens, and it may, if grit be present, scratch the glass. Nor should the handkerchief, either wet or dry, be introduced into the tube of any but a low power objective. The cells must first be unscrewed from their mountings, and then the cleaning be done properly. But, let me add, an objective ought never to be taken apart by any one but its maker. He has the lathe upon which it was made, and he alone, when the parts have been separated, can replace them in their original adjustment to the optical center. Any other person will be likely to screw in the cells either too tightly or not tightly enough, and will thus throw the combinations out of their necessary delicate relation to one another. Besides, unless skill and care be exercised in screwing the parts together, the front and the middle

combinations will sometimes be brought in contact, and the flint glass, which is very thin in the center, will be broken. The screw thread of the cells is very delicate. Yet some persons, after failing to catch it, apply force enough to break it. Such carelessness passes comprehension.

"A large angle oil-immersion lens gets out of order easily. If you find the definition of such objective to have lost its sharpness, you may know that the front lens is out of center. It has come in contact with the slide. A very slight pressure is sufficient to work the mischief. This susceptibility to injury is unavoidable, as every optician will tell you. It is incident to the requirements of high angle construction. A few days ago an objective was sent to me with the request that the front lens should be reset. It had in some way been forced out of its place. I reset it as well as I could. But that objective, even if it had been repaired by its makers, the Messrs. Powell and Lealand, can never be what it was before the injury. The only way of repairing it was by inserting a ring of cement, which, projecting slightly through the shoulder, necessarily cut down the angle. A heavy shoulder means, of course, a low angular aperture. A novel method of using an immersion lens came under my notice recently. A water-immersion objective had been ordered. It was made and sent, but it did not give satisfaction. I inquired by letter, 'In what way do you proceed to work with it?' 'I fill it with distilled water, and then screw it to the instrument,' was the reply. An objective is sometimes almost ruined through sheer carelessness. I made a costly lens for a New York optician. He tossed it several times in his hand, and finally dropped it upon the floor. 'Oh,' he said, 'that will not harm it!' I looked at it, and found the front combination tilted at an angle of about  $45^{\circ}$ . This act of carelessness cost that optician twenty-five dollars.

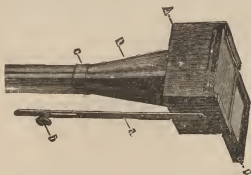
"I have here the back setting of a  $1\frac{1}{2}$  inch lens which was made by me several years ago. The purchaser of the lens had screwed it so tightly to his microscope that he could not, with his hand, unscrew it. So he used a pair of heavy gasfitter's pliers, and succeeded in pulling the tube of the fine adjustment out of the body of the instrument. This rude handling damaged the microscope to the amount of forty-five dollars. Quite recently the owner of an instrument which cost three hundred and fifty dollars told me that he had a wonderfully clever son. 'Why,' he exclaimed, 'he has, with a screw driver, taken the microscope all apart! He is unable, however, to put it together again.' This outrage illustrates the incapacity of some people, old as well as young, to appreciate the products of fine workmanship. I do not favor the nose piece, if you must have one, choose one that is of

good design and thoroughly well made. Lenses, especially those of high power, ought not to be tested with the use of this accessory. A superior lens, worked by an illustrious microscopist, becomes its maker's best advertisement. But when it falls into the hands of a careless or incompetent person, and is not carefully used or regularly and properly cleaned, to hold the maker responsible for its consequent unsatisfactory performance is to do him great wrong."

## AMATEUR PHOTOGRAPHY.

The modern improvements in photography, which are the result of the introduction of gelatine dry plates, has made the photographing of microscopic objects as easy of accomplishment as the photographing of the beautiful and visible in nature is with the popular amateur outfits.

The scientist and microscopist, instead of spending hours in making imperfect drawings, aided by the camera lucida, may in a few minutes, with the assistance of photography, produce a more perfect representation of a minute object than it is possible for the hand of man to do, working conjointly with the eye. Not only can an enlarged image of a microscopic object be formed for illustration, but professors in colleges will find it a ready means to produce negatives of a suitable size from which may be made transparencies or magic lantern slides for exhibition to classes or the public.



### PHOTOGRAPHIC CAMERA. $3\frac{1}{2} \times 4$ .

PRICE.....\$6.50

This Camera is provided with a brass cone *B*, terminating in the ring *C*, within which slides the extension tube that fits over the draw tube of our microscopes. *A* represents the camera box; *D* the plate holder, which slides back and forth as desired; *A* is a brass bar which is fastened upon the microscope stand to give steadiness to the camera.

## PROJECTION LENSES.



Achromatic Objectives for Lanterns.

The most desirable feature to be looked for in a Lantern Objective is its defining power; it is not difficult to obtain an objective of any desired magnifying power—what is wanted is a clear, sharp definition, a flat field brilliantly illuminated to the very edge of disc. There are many different makes of objectives on the market, but only a few are worthy of your attention. The best Lenses are the Darlot, Voigtlander, Dalmeyer, and Sufer. We prefer the Darlot, taking everything into consideration, as the best Lens made for general work. These Lenses are mounted in finely finished and lacquered brass, and have the highest grade rack and pinion action. There are different sizes of Objectives, that are known as “One-Fourth,” “One-Third,” “One-Half,” “Two-Thirds,” and “Four Four” sizes. While this nomenclature is arbitrary, and the same size lenses by different makers have different powers, yet the law of each lens is a fixed one—at a given distance will make a certain size of picture. This law cannot be changed. The law of the different Darlot Lenses is as follows:

A “One-Fourth” makes a disc, or picture, in diameter or square one-half its range.

A “One-Third” Lens makes a disc, or picture, in diameter or square one-third its range.

A “One-Half” Lens makes a disc, or picture, in diameter or square one-third its range, less 10 per cent.

A “Two-Third” Lens makes a disc, or picture, in diameter or square one fourth its range, plus 10 per cent.

A “Four Four” Lens makes a disc, or picture, in diameter or square one-sixth its range, minus 10 per cent.

Example: At 60 feet a One-Half size lens would cut a disc 18 feet square, or in diameter. The figures above given, while not exact to the inch, are accurate enough for all practical work.

#### Price List of Objectives.

One-Quarter McIntosh.....	\$ 7.00
One-Quarter Darlot.....	7.00
One-Third ".....	12.00
One-Half ".....	14.50
Two-Thirds ".....	21.00
Four Four ".....	32.00
No. 2 Voigtlaender.....	52.00
No. 3 ".....	65.00
No. 2 Suter.....	40.00
No. 3 ".....	50.00

You will notice in above list a One-Quarter McIntosh Objective, at \$7. This Objective we have designed especially for short range work. It will make a picture about five-eighths of its range, or, in other words, for every foot you go back from the canvas you increase your picture seven and one-half inches. It is one of the best Lenses made for use with the oil light. These Lenses are all accurately matched in pairs for dissolving Stereopticon work.

### LIMES.

After a great deal of experimenting with the lime of the various parts of the country, we have finally obtained a lime the quality of which for use in Stereopticons we believe has never before been equaled. We are now making it up into cylindrical sticks  $2\frac{3}{4}$  inches long and 1 inch in diameter, as perfect in shape as lime cylinders can be made, of good even quality, neither too hard nor too soft; their incandescent properties are unsurpassed. We put them up in hermetically sealed jars containing one dozen each—the cans being so constructed that they can be hermetically closed every time after they are used by the consumer.

PRICE (per jar) one dozen Limes.....\$1.25

We also furnish English Limes; those that have a hole drilled through the center. Also the Disc Limes, such as are used in some of the old style Lanterns at the present day.

PRICE, English Limes.....\$2.00 per dozen.

" Disc Limes..... 2.50 "

One other desirable feature in hanging or putting up a screen is a good quality of rope. We supply the best grade Bird Island

sash weight cord, which is tested to stand a tensile strain of 500 pounds dead weight. It is put up in skeins of 100 feet.

PRICE.....\$1.25

We can supply all the different makes of prepared Lantern slide-plates at the regular market price which will average perhaps 70 cents per dozen.

We also supply chemicals ready mixed, in packages of two pounds each, of Chlorate of Potassium and Black Bin-Oxide of Manganese, in the proportion of three parts of Potassium to one of Manganese.

PRICE, per dozen packages.....\$6.00  
 " per package......50

These prices are subject to the fluctuations of the market.

## THE KODAK CAMERA.

Anybody who can wind a watch can use the Kodak Camera. It is a Magazine Camera, and will make 100 pictures without reloading. The operation of taking the picture is simply to point the camera and press a button. The picture is taken instantaneously on a strip of sensitive film, which is moved into position by turning a key.

After the 100 pictures have been taken, the strip of film (which is wound on a spool) may be removed and sent by mail to the factory to have the pictures finished, thus relieving the purchaser of all the trouble of finishing the pictures. A spool of film to reload the camera for 100 pictures costs only \$2.00.



### NO TRIPOD IS REQUIRED.

No focussing, no adjustment whatever. Rapid rectilinear lens. The kodak will photograph anything, still or moving, in-doors or out.

The kodak is covered with dark Turkey morocco, nickel and lacquered brass trimmings, enclosed in a neat sole leather carrying case, with shoulder strap, and is about the size of a

large field glass. Size,  $3\frac{1}{4} \times 3\frac{3}{4} \times 6\frac{1}{2}$  inches.

The Kodak is held in the hand and pointed directly at the object. No finder is required because the camera is so small it can itself be sighted at the object.

The Kodak is suitable for as large a range of subjects as any camera of larger size. It is equally adapted to photograph

Moving Objects,	Machinery,	Groups,
Still Objects,	Landscapes,	Animals,
Objects Indoors,	Marine Views,	<i>Anything,</i>
Objects Outdoors,	People,	<i>Everything,</i>
Buildings,	Portraits.	

REMEMBER, it can be used without

Study,	Trouble,	Chemicals,
Experiment,	Dark Room,	



This is the exact size of a Kodak Picture.

*Anybody Can Use It.*

*Everybody Will Use It.*

Size of picture,  $2\frac{5}{8}$  inches diameter. Loaded for 100 pictures, including sole leather carrying case, with strap.

## THE KODAK

### AND THE MAGIC LANTERN.

Kodak negatives are especially adapted for making magic lantern slides from, and any traveler returning from a trip with a Kodak can make or have made a set of slides from his negatives, and by the aid of a *magic lantern*, or stereopticon, take his friends with him over the ground he has traveled.

PRICE.....\$25.00

**CONDENSING LENSES, PLANO CONVEX, GROUND EDGES.**

1½ inches in diameter, unmounted .....	\$ 2 00
2¼ " " " " .....	2 50
3 " " " " .....	2 75
3½ " " " " .....	3 00
4 " " " " .....	3 50
4½ " " " " .....	4 00
5 " " " " .....	6 50
6 " " " " .....	7 75
7 " " " " .....	9 00
8 " " " " .....	10 25
9 " " " " .....	11 50
10 " " " " .....	13 00

**COSMORAMA LENSES.**

7 inches in diameter, double or plano convex lens, 30, 36, 48 and 72-inch focus.....	\$ 3 00
6 inches in diameter, double or plano convex lens, 24, 30, 36, 48 and 72-inch focus.....	2 50
5 inches in diameter, double or plano convex lens, 18, 20, 24, 30, 36, 48 and 72-inch focus.....	1 75
4 inches in diameter, double or plano convex lens.....	1 25

The lens that is 6 inches in diameter, and from 24 to 36 inches in focal length, is the one commonly used.

**PLANO, OR DOUBLE CONVEX LENSES, GROUND EDGE.**

⅛ inch diameter, ⅛ inch focus, - - - -	\$ .65
⅜ inch diameter, ¼ inch to ⅛ inch focus, -	.65
⅝ inch diameter, ⅜ inch to ⅛ inch focus, - -	.65
¾ inch diameter, ½ inch to ⅜ inch focus, -	.75
⅞ inch diameter, ¾ inch to ½ inch focus, - -	.75
1 inch diameter, 1 inch to ⅝ inch focus, -	.75
⅞ inch diameter, 1¼ inch to ¾ inch focus, - -	.85
¾ inch diameter, 1½ inch to 1 inch focus, -	.85
1 inch diameter, 2 inch to 1½ inch focus, - -	.85
1¼ inch diameter, 5 inch to 72 inch focus, -	.50
2 inch diameter, 6 inch to 72 inch focus, - -	.60
3 inch diameter, 6 inch to 72 inch focus, -	.75
4 inch diameter, 12 inch to 72 inch focus, - -	1.25
5 inch diameter, 18 inch to 72 inch focus, -	1.75
6 inch diameter, 24 inch to 72 inch focus, - -	2.50
7 inch diameter, 30 inch to 72 inch focus, -	3.00
8 inch diameter, 30 inch to 72 inch focus, - -	4.00



## LIGHT FOR PROJECTION.

SUNLIGHT excels all other forms of light for projection, but as this work, in many departments, is more conveniently carried on at night, it becomes necessary to seek a substitute.

The electric light ranks next to sunlight in brilliancy. An 150 c. p. lamp is made expressly for projection, which produces beautiful results. It can, however, only be employed where it can be connected with a dynamo, which limits its use to such buildings as are supplied with an electric light plant. The light produced from chemical batteries is altogether too expensive and troublesome to be employed except in the laboratory for experimental work. Until the problem of producing a compact, portable and economical battery for the production of the electric light is solved, the majority of projectionists will select the lime-light as practically the best illuminator in the absence of sunlight. A very intense light is produced by forcing a blowpipe flame of mixed hydrogen and oxygen gases upon a stick of unslacked lime. There are four varieties of this light, known as the oxy-hydrogen or Drummond light, the hydro-oxy-calcium light, the oxy-calcium or Bude light, and the ether-oxygen light. In the oxy-hydrogen, two gases are supplied to the jet from separate gasholders, and mix before issuing from the jet. This form of lime-light requires much more expensive and cumbersome apparatus than the others, but has been most used because the most powerful. In the hydro-oxy-calcium, coal gas is used direct from the house fixtures, and does not mix with the oxygen until it issues from the jet. This is the most simple form, but is only about half as powerful as the oxy-hydrogen, and its use is restricted to buildings supplied with coal gas. In the oxy-calcium, an alcohol flame supplies the hydrogen element; it is only about a quarter as powerful as the oxy-hydrogen, but is used in out-of-the-way places to save the trouble and expense of cumbersome hydrogen generators and gasholders. In the ether-oxygen light, ether vapor is substituted for hydrogen or coal gas in the oxy-hydrogen blowpipe, in such a simple and satisfactory manner that it possesses important advantages over every other means for producing the lime-light. This is accomplished by passing a small portion of the oxygen through a saturating chamber of peculiar construction, in which it takes up ether vapor, which it conducts to the jet by way of the

hydrogen key. The mixture burns like hydrogen or coal gas, and is brought to a focus in the usual manner, by admitting oxygen direct from the gasholder. This method is as simple and cheap as the oxy-calcium, as powerful as the oxy-hydrogen, and more convenient than either. Gasoline can be substituted for ether, and the intensity of light and expense of running are then the same as for the hydro-oxy-calcium, but with the advantage that its use is not restricted to buildings supplied with house gas, and the apparatus is complete for producing the more powerful light, with ether whenever it is wanted.

## THE McINTOSH-IVES SATURATOR

FOR THE PRODUCTION OF

**The most Brilliant and Powerful Oxy-hydrogen Lime-light. A Perfect Substitute for Hydrogen or Coal-gas. Stored without a Gasholder, and Ready at all Times. Supplied to the Blowpipe by Simple Mechanical Means, without Heat, and ABSOLUTELY WITHOUT DANGER.**

Previous to the invention of Ives' saturating chamber, two or three experimentalists in Europe used ether in a "wash-bottle," forcing oxygen through the liquid in bubbles. The method was not a success, because the light flickered badly; the adjustments had to be changed frequently to keep it at its best; the ether chamber could not be disturbed without affecting the light, and to upset it was dangerous. Heat was also tried to vaporize the ether, but it proved troublesome and unsafe.

The construction of Ives' Saturator is such that there is no heat, no bubbling, no obstruction to the free passage of the oxygen, and it can be disturbed or upset without affecting the light or spilling any ether into the tubing. After one adjustment of the light, it will automatically regulate the supply of vapor to correspond to any variation in the supply of oxygen, thereby making the light almost as easy to manage as a coal-oil lamp. This is a very important advantage, which is possessed by no other means for supplying the hydrogen element to the oxy-hydrogen blowpipe.

### FREEDOM FROM DANGER.

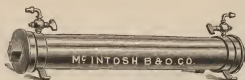
Some, who have not seen this vapor light operated, suppose that the mixture in the Saturator must be explosive, and consequently more or less dangerous. It has been proven that with other kinds or forms of saturating chambers, or with any form which has a filling that is improperly arranged or made of unsuitable material, this supposition

might be quite correct; but all Saturators *which are manufactured under our supervision* (it is unlawful to use any others with a porous filling) will be found to operate so perfectly that it is only necessary to pass a very small portion of the oxygen through them, and the mixture will burn like house gas, *without a particle of danger*, and *without the slightest irregularity*. The details of construction were not settled upon until about a dozen shapes and sizes were tested in a most careful manner, with several different kinds of filling; it was found that while the form, size and arrangement finally adopted by the inventor would meet every possible requirement, some apparently insignificant deviations therefrom would make a saturator quite unreliable and unsatisfactory for use with lime-light apparatus.

Since coming into our hands we have experimented extensively with a view to still further improving both its safety and its efficiency. We have made some half dozen improvements suggested by prolonged experience in working single and dissolving lanterns, and have no hesitation in pronouncing it, in its present form, superior in safety, convenience and quality of light produced, to hydrogen or any other substitute for it in the production of the calcium light in its perfection.

Any good oxy-hydrogen "mixed-gas" jet can be used, but those having a comparatively small aperture and a small mixing chamber are best. Oxygen may be supplied from either a bag, gasometer or cylinder, in the usual manner.

The McIntosh-Ives Ether Saturator is made in 3 sizes; 1, 2 and 3 tubes.



PRICE.....\$15 00

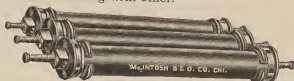
No. 1, or smaller, consists of one cylindrical nickel-plated brass tube, having a diameter of 2 inches, and 13 inches in length, with a porous filling having a zig-zag channel cut into the center of the top  $\frac{3}{8}$  of an inch in width, and  $\frac{1}{8}$  of an inch deep, and about 25 inches in length, to allow the free passage of oxygen gas. On the upper surface of each end is a stop cock with nipples for the attachment of the rubber connections and also for filling with ether. This No. 1 Saturator is an improvement on, and has been designed to supplant entirely, the No. 2; or 2 Tube Saturator, since from the peculiarity of its con-

struction, its capacity nearly equals that of the No. 2. Either the No. 1 or the No. 2 Ether Saturators are designed for use with the single lantern only.



PRICE.....\$15 00

The No. 2 Ether Saturator consists of two cylindrical nickel-plated brass tubes, each two inches in diameter and 13 inches long, with a porous filling having a channel in the center  $\frac{3}{8}$  of an inch in diameter, to allow free passage of oxygen gas. A metal cap with lead filling is screwed on the end of each tube; on the center of each cap is a nipple for connecting the rubber tubes and also for filling with ether.



PRICE.....\$20.00

The No. 3 Ether Saturator is in every respect similar to the No. 2, excepting that it consists of three tubes, each constructed in the same manner as the tubes in the No. 2 Saturator, and held together by clamps, as depicted in above cut. This size is designed for use with the double or dissolving stereopticon. The caps should be removed only when the porous filling needs drying out, and should be replaced on the tube having the same number. The Saturator will more than replace the cumbersome hydrogen generator or cylinder costing two or three times as much. The smaller one weighs only  $1\frac{3}{4}$  pounds, while the larger one only  $4\frac{1}{4}$  pounds. Aside from the directions for operating the McIntosh-Ives Ether Light as given in the following pages, a few general remarks may be given. Use a high grade of ether only, that used by surgeons for anæsthesia preferably; always be sure that you have a sufficient quantity of ether in the saturator; to fill the saturator is best accomplished as follows: Pour in ether at either end, it does not matter which, of each tube or saturator, in turn, until liquid ether runs out in a free stream, and let it trickle and drain until it escapes drop by drop; this shows that the porous filling is thoroughly saturated. One

thing that we wish to guard you against is the temperature in the room in which you are using the Oxy-Ether Light, and, that is if the temperature of the room is below 60° Fahr. you should use artificial heat to warm the saturator; simply wrap the saturator in several thicknesses of ordinary flannel, and place thereupon a hot brick, or a bottle of hot water, so that the ether is made warm enough to volatilize readily. One more essential point; if you are using a gas bag, a sufficient weight must be placed thereon, never less than 300 pounds dead weight; even with this heavy weight, the pressure to the square inch is only a little over 3½ ounces to the square inch. Careful attention to these details will insure a good light. All of the jets and compound dissolvers manufactured by us can be used with either the Ether Oxygen or Oxy-Hydrogen, or with the Oxy-Calcium Light.

ARLINGTON, TEX., April 6, 1889.

McIntosh Optical Co., Chicago :

GENTLEMEN.—All is lovely, Light *splendid*, all I could ask. The trouble at first was soon overcome. I handle the light now easier than oil. I thank you for the kind letter of the 3d. I now take the road.

Very respectfully,

OSCAR J. LAWRENCE.

UPPER SANDUSKY, OHIO, April 26, 1889.

McIntosh Battery and Optical Co. :

GENTS.—After 31 nights consecutive use of the McIntosh-Ives Ether Saturator as a substitute for hydrogen gas, in exhibiting the Government collection of Brady's War Views. I am pleased to state that it has proven satisfactory beyond my most sanguine hopes. I have used it both with gas bag and cylinder, and experienced no trouble whatever with it, and I consider my light equal to that produced by mixed gases in the usual way. The thanks of all exhibitors are due you for having eliminated from the business, the *danger*, trouble and disagreeable features of making and handling hydrogen gas. I use only the best ether, and even then the expense is only about 25 cents per hour.

Very truly yours,

JOHN D. CRESS.

INDIANAPOLIS, Aug. 17, 1889.

McIntosh B. & O. Co. :

DEAR SIRS.—Letter and lime at hand and all is satisfactory. Thanks for kindness.

Permit me the pleasure of testifying to the worth of your Ether-Oxygen light. Having used your Saturator for six months, I am more than satisfied with it; I am delighted. It is so simple in its method of operation that a child might be taught in ten minutes' time to use it with perfect safety. It has never failed me in a single instance. It is the universal judgment that its light is better than that of the Oxy-Hydrogen.

Yours truly,

F. S. TINCER, 244 Ash St.

SYRACUSE, N. Y., Nov. 15, 1888.

McIntosh Battery and Optical Co. :

SIRS.—Will you please send me catalogues of your Stereopticon and Microscope Apparatus. I have used one of your Ether Saturators for two years and never have failed to get satisfactory results. On the night of election I threw the returns on the front of a building across the street for six hours without refilling the Saturator once, and do not know how much longer it would have lasted, as we tired out before that did. I used three large bags of gas.

Yours,

L. T. DOUST.

24 E. Genesee St., Syracuse, N. Y.

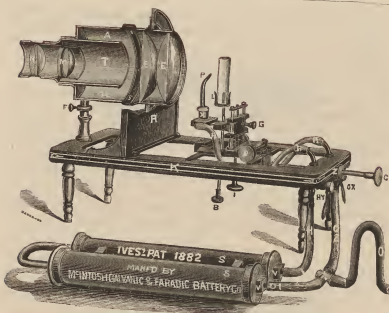
FRANKLIN, LA., August 18, 1888.

Dr. McIntosh :

DEAR SIR—Please mail to me your latest catalogue of Lanterns, Saturators and Views. I trust you are doing very well in your business. You deserve success, for you are always at work inventing or improving. My jets and saturator and bag I bought from you nearly three years ago are as good as new yet. I experience no difficulty in working the dissolving lanterns with the Ether-oxy light by myself, and lecture at the same time. [This is surely praise for your apparatus, and only the truth. I hope you are making improvements in the Saturator, in jets and lanterns, and am anxious to see your very latest cuts and circulars.

Hoping to hear from you, I am, as ever, yours

REV. A. F. CLAY.



### DESCRIPTION OF WORKING PARTS OF McINTOSH COMBINATION STEREOPTICON.


- K*, Lantern Base of Japanned Iron.  
*R*, Front of Lantern Frame in which is fixed the tube carrying the lenses.  
*E, E*, Condensers.  
*S, S*, Slot through which the slide carrier passes.  
*A, A*, Large brass tube or cell, called the "Lens Tube."  
*F*, Clamp supporting *A*, to prevent jarring of lenses and consequent distortion of images.  
*T*, Draw-tube holding the Stereopticon Lens or the Microscope Attachment.  
*M*, Back combination of Stereopticon Objective.  
*N*, Front combination of Stereopticon Objective.  
*P*, Platina-tipped Goose Neck.  
*X*, Mixing Chamber.  
*L*, Lime Cylinders.  
*B*, Rod which raises, lowers or turns the lime.  
*C*, Sliding Rod, moving lime to and from the Jet.  
*Z*, Screw Clamp, for delicate adjustment of *C* in microscope work.  
*I*, Screw, raising or lowering the light.  
*D*, Screw, centering the light horizontally.  
*Hg.*, Key for Hydrogen or Ether Vapor.  
*Oz*, Key for Oxygen.  
*N, N*, Rubber pipes carrying gases from keys to mixing chamber.  
*S, S*, Two-tube McIntosh-Ives Saturator.  
*O*, Pipe connected with Oxygen reservoir.  
*t*, T tube which divides oxygen between the Saturator and the Oxygen Key.  
*O1*, Pipe carrying oxygen to the Saturator.  
*O2*, Pipe carrying oxygen to the Lantern.  
*H*, Pipe carrying Ether Vapor to the Lantern.

The arrows show the direction of the gases. This apparatus is provided with our best mechanical jet.

### DIRECTIONS FOR OPERATING THE McINTOSH-IVES ETHER LIGHT.

**TO FILL THE SATURATOR.**—The nipples, *V, V*, are closed with small metal caps (not shown in cut), when sent out. Remove these and connect a small tin funnel by a piece of rubber tubing with each in turn, at *V*, holding the Saturator in a perpendicular position while filling; when full, drain both cylinders into the ether can for a few

seconds, or until no ether will flow out at  $V$ ,  $V$ , when the Saturator is held horizontally, as in cut, then replace metal caps until ready to connect with the lantern.

 Never fill near a light. *Keep at least ten feet away from any flame when filling the Saturator, and never allow any chamber containing ether to become heated. Remember that ether vapor (unlike hydrogen and coal gas) is heavier than air, and diffuses rapidly downward; also, that it vaporizes much more readily in a warm than in a cold room. The ether is held in place in the cloth filling by capillary attraction, which does not act perfectly for a height of more than two inches; for that reason, the filled Saturator should always lie on a nearly level surface, to prevent the ether from draining into one end. It works better to be placed on a level with the Lantern (see cut). Do not connect with the jet and oxygen supply until ready to start the light.*

TO CONNECT WITH THE LANTERN.—Remove the metal caps from  $V$ ,  $V$ , and connect one tube of the Saturator with the  $Hy$  key of the lantern, and the other with the  $T$  tube, as shown in cut. *It is important that the ether vapor be carried through the hydrogen key of lantern. See that all keys are closed before connections are made, and be careful that there is no leakage of gas when connections are complete.*

CAUTION. 1.—Do not raise the Saturator while making connections, lest free ether run into the tube  $Ox$ . Carelessness in this respect may lead to destruction of the gas bag. It is a useful precaution to bend up the tube  $O$  above the level of the Saturator at one point, so that no free ether can run back into the gas-bag.

2.—Never connect the Saturator with the Lantern by the same tubing that is used in making gas. Particles of chemicals carried into it during this process are liable to be blown into the jet, and stop the flow of gas, which extinguishes the light.

THE LIME should be kept perfectly dry; do not place it in the holder until ready to light up. It should turn as close to the jet as possible without touching it. If cracked or rough from the action of air or moisture, it interferes with the perfect working of the light, produces hissing, and is liable to break, necessitating a stoppage of the light to replace it. Since the intense heat destroys the lime by degrees, it is necessary to occasionally turn, raise or lower it slightly to expose a fresh surface to the flame, otherwise the light will grow dim.

THE OXYGEN RESERVOIR.—If a *gas-bag* is used to hold the oxygen, it should be laid between two pressure-boards of suitable size to protect it from cracks or splinters in the floor below, and cutting edges of the weights above. Anything that is convenient may be used for weights: kegs of nails, stones, etc. Coarse bags filled with sand make convenient weights. They should be adjusted so that they cannot roll off. From 150 to 225 pounds are best for a single lantern, and from 200 to 300 pounds for dissolving. The greater the pressure up to a certain point, the more brilliant the light; the gas is used more rapidly than necessary for most kinds of work, with the larger weight named. The nearer the upper edge of the pressure-board the weights

are placed, the greater the pressure. As the gas in the bag diminishes, the pressure lessens, so that to maintain the light in its original brilliancy, additional weight should be added from time to time, or an adjustment of valves be made at first, so that they can be opened more widely as the pressure diminishes. *Never remove any of the weight from the bag while the light is burning.*

**TO START THE LIGHT WHEN A GAS-BAG IS EMPLOYED.**—See that all valves are closed; that the bag is properly weighted; that all connections are made as previously described, and that there is no leakage of gas. Draw the jet away from the condenser by rod *C*, adjust the lime, then open the key *Hy*, and next the stop-cock of the gas-bag; wait a second or two for the air to be driven out of the tubes, then ignite the mixture of gas and vapor which issues from the jet; let it burn two or three minutes to heat the lime, then open the oxygen key at *Ox* (slowly); when this key is wide open, partly close the ether key *Hy* (very slowly) until the lime gives out the most steady and brilliant illumination. If there is a hissing sound heard, partially close the oxygen key *Ox* (very slowly) just sufficient to stop the hissing. If the light grows dimmer after two or three minutes, the ether key should be adjusted again. It will need no further attention except in a very cold room after evaporation of ether has considerably reduced the temperature of the Saturator, when it may be necessary to open the *Hy* key almost wide toward the close of the exhibition. The light is best when the ether vapor is slightly in excess, which may be known by the orange tinge at the top of the flame.

*The first step in extinguishing all forms of the Lime-light is to draw the jet away from the condensers.*

**TO TURN OUT THE LIGHT WHEN A GAS-BAG IS USED.**—Close the oxygen key *Ox* first, then the ether key *Hy* (very slowly); lastly, close the stop-cock at the bag. Disconnect the Saturator immediately, and screw the metal caps over *V*, *V*, to avoid waste of ether.

**TO START THE LIGHT WHEN OXYGEN IS SUPPLIED FROM A CYLINDER.**—Open the ether key *Hy* first; then turn on the oxygen at the cylinder and ignite the mixture at the jet. When the lime is sufficiently warmed, turn the flame high, then open wide the oxygen key *Ox*, and turn on a little more pressure of the oxygen at the cylinder; adjust by very slowly closing the ether key *Hy*, until the best light is obtained. When adjusted, the light may be increased or diminished within certain limits, simply by turning the cylinder key.

If there is a whistling or hissing of the flame, it may be caused by too great pressure on the gas, by a roughness in the platina tip of the jet, by cracks or holes in the lime, or the proportion of the gases in the flame may not be properly adjusted.

**TO TURN OUT THE LIGHT WHEN OXYGEN IS SUPPLIED BY A CYLINDER.**—Open the ether key *Hy* wide, close oxygen key *Ox*, then the cylinder key (very slowly).

**TO AVOID SNAPPING OUT THE LIGHT OBSERVE THE FOLLOWING RULES:** See that there is no leak in the burner, tubes or Saturator. Always fill the Saturator before using, and use only a good quality of ether. Use a full flow of oxygen gas, sufficient to produce a bright light. Dry out the cloth tubes at least once in two weeks, if the



Saturator is used every night. This can be done by unscrewing the caps that are numbered, and removing the cloth tubes and placing them out of doors, until the ether has evaporated and they are thoroughly dry; then replace them in the Saturator. Fill the threads of the screws in the caps with common bar soap, and screw them on the tubes numbered to correspond; this makes them perfectly tight.

If, when the oxygen key is closed to turn out the light, the lime continues to give out a bright light, even after the Saturator is turned on its side, it is an indication that the supply of ether is almost exhausted. This need not occur, because the Saturator *will hold more than enough* to supply a suitable proportion for an ordinary size bag of oxygen; but if it does occur, the flame will give a harmless "snap" when turned out, or retreat into the Saturator, and blow off the rubber tubes, if the pressure of oxygen is insufficient. In the latter case the flame can be instantly smothered with a handkerchief or the hand, and no damage can be done.

## INDORSEMENTS.

WILLIAM A. ANTHONY, Professor of Physics at Cornell University, was the first to test the new light carefully in comparison with the oxy-hydrogen. He used two "mixed gas" jets exactly alike, one supplied with ether from the patent Saturator made by the inventor, the other with hydrogen from a gasometer. He says: "With the same pressure of oxygen, the ether light is better than the hydrogen." \* \* In the qualities of steadiness, freedom from noise, etc., it is certainly equal to any lime-light, and in convenience of manipulation, especially for traveling exhibition, it is far superior to either hydrogen or house gas."

The ether Saturator is just what I have been looking for years. Having used it ever since you put it on the market, I have only words of praise for it. It is clean, safe, inexpensive and always ready for work. Although I have gas bags, cylinders, etc., for hydrogen, I never use them. The ether Saturator is far more convenient, gives a light equally as bright as hydrogen, and is perfectly free from danger of any kind. If now you can devise something that will take the place of the ordinary oxygen appliances, as the ether Saturator has taken that of hydrogen, you will confer a great favor on all users of the lantern.

J. A. ZAHM, C. S. C.,  
Prof. Physical Science, University of Notre Dame.

I have used nearly, if not all, kinds of illumination for the lantern, coal oil, the electrical (arc) light, and all forms of the oxy-hydrogen or calcium light. For convenience, safety, ease of manipulation and results, I prefer the oxygen and ether (McIntosh-Ives Saturator) to all others.

During the last year I was connected with the Woman's Medical College, this light was constantly used, often by those who had no especial knowledge in manipulating the light, and no accident occurred, save, possibly, the blowing off of the tubes.

PLYM. S. HAYES, A.M., M.D.,  
Late Prof. of Chem. and Toxicology Woman's Med. Coll., and Prof. Analytical Chemistry, Chicago College of Pharmacy.

My lantern pleases me very much. For projecting anatomical structures, both by photograph thereof and the specimen itself, with microscope attachments, was satisfactory to myself and to the three hundred and more students and friends who attended our course of seven evening lectures, as per inclosed card. The ether Saturator, which I handled with some timidity at first, is no longer any source of anxiety, but rather I have every confidence in it, and the light is elegant. For my work in the medical college as teacher of physiology and histology, I don't want to ever try to lecture without the lantern outfit.

E. S. BAILEY, M.D.,  
Registrar of Hahnemann Medical College Chicago, and Professor of Physiology and Histology.

Six years' experience with your Stereopticon, with Microscope Attachment and the Ives' ether oxygen light, in illustrating my lectures on Diseases of the Nervous System, at the Woman's Medical College, enables me to speak with some degree of authority about it. We use it at almost every lecture in the course, and we find it so simple in its construction, and so perfect in its action, that any person of ordinary capacity can, in a few minutes, learn to manipulate it successfully. We are confident that it materially elucidates the complex subject we teach, affording us much satisfaction, and the students much profit.

We lecture in the spring course in another college, in which a very much more expensive apparatus, of English construction, is used, and we can say with emphasis that the illumination and smoothness of work is very much in favor of your excellent combination.

We commend the apparatus to all teachers as furnishing the best and cheapest method of illustrating their work. I might say that such is the power of the light, that we can satisfactorily show our slides in a room light enough for easy note taking.

D. R. BROWER, M.D.,  
Prof. Diseases Nervous System in Woman's Medical College, Chicago.

"Mr. Ives, of Philadelphia, has devised an ingenious arrangement, at once simple, compact and effective, for dispensing with the use of hydrogen or illuminating gas in using the oxy-hydrogen jet for lantern demonstrations. It gives a brilliant light, which compares favorably with that obtained in the usual manner with hydrogen or burning gas. The portability and convenience of the apparatus will commend it to the favor of exhibitors and lecturers."—*From the Manufacturer and Builder, N. Y.*

"The rapidly increasing use of the lantern in schools, public lectures and exhibitions, has led to a number of experiments to reduce the cost of the lime-light. In a few large cities the gases are easily obtained in commercial quantities, stored in iron tanks, ready for use, and at comparatively low prices. The tanks are troublesome to carry, and in smaller towns the gases must be made on the spot as required; and this involves expensive and troublesome apparatus. Every effort has been made to find a substitute for one of these gases. Ether has been tried several times, but has been considered too dangerous. More recently an apparatus for saturating the oxygen with the vapor of ether has been devised, that appears to remove all danger of explosion. A light is obtained that, as far as observation goes, is quite as good as the ordinary lime-light. The invention has the merit of saving all the trouble of making or carrying hydrogen, as the whole apparatus can be carried in the hand, while ether can be obtained anywhere."—*From the Century Magazine.*

"We have tested your new lime-light and found it a good substitute where gas is not obtainable."—*From E. & H. T. Anthony & Co., N. Y.*

"I have nothing in the light line that pleases me so well. It is as simple as coal oil, and cannot but be perfectly safe. All that can happen is for the rubber caps to blow off. The tubes cannot explode with the blowing off of the caps—when the caps fly off even this cannot happen. I used Marcy's mixed jet, the same as I used for pure hydrogen and oxygen. No one will use two bags any longer, now that Ives' Saturator can be had."—*Dr. S. N. Gish, in The Magic Lantern.*

"We have no hesitation in saying that the ether-oxygen light, as produced by the Ives' Saturator, can be made to dissolve as smoothly and as perfectly as the oxy-hydrogen light in the old way. We do not wish to be understood

as saying that every lantern, or every jet, will produce perfect dissolving effects with the Saturator without some adjustment. Some jets undoubtedly will, while others (presumably those having a large mixing chamber at base of the jet) may require to be differently adjusted; but we are firmly convinced that all jets, not capable of being used with the Saturator, can very readily be adjusted for the purpose."—*Edward L. Wilson, in The Magic Lantern.*

"I respond with pleasure to your request for my experience with the ether Saturator for the last two years, for dissolving effects. It has certainly been most satisfactory. So much so that I would not use the oxy-hydrogen, for reasons that the ether is safer, the light whiter, and I am satisfied the light is just as strong. Especially is the light stronger and more brilliant if the oxygen is made new and from pure quality of potash each time."—**JOHN S. ATWATER.**

"I have used one of your Stereopticons with your McIntosh-Ives' Saturators for about two years, and am free to express not only my entire satisfaction, but pleasure in working the same. I have given many exhibitions, both public and private, and find the light clear and brilliant, with great illuminating and magnifying power. I have projected views of different diameters from 8 to 20 feet, and have always given perfect satisfaction to my audiences as well as to myself. The use of the Saturator I believe to be entirely safe, and I have always found it easy to manage. Any one of ordinary judgment can work this Saturator without risk and with success. The time required for me to manufacture the oxygen gas and get everything ready for exhibiting never exceeds thirty minutes. I cordially recommend, not only your Saturator, but also your Stereopticon to all who wish to give successful entertainments."

**S. W. FALLIS, Stereopticon Exhibitor,  
Photographer, and Proprietor of Baker & Co's  
Wood Engraving Establishment.**

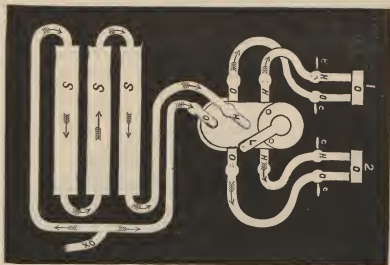
"Frequently during the past year I have had occasion to use one of Dr. L. D. McIntosh's Improved Stereopticons, and have found it an excellent instrument for projection. The dissolving arrangement is perfect and is well adapted to either the oxy-hydrogen or ether-oxygen light. I use the ether-oxygen light, and cannot speak in too high terms of the simplicity and ease with which this light is operated. The Saturator is a wonderful saving of time and labor."

**WILL H. WHITE, Cleveland, Ohio.**

**MANAGEMENT OF OXY-HYDROGEN LIGHT.**—When ready to light up, shut off the keys at the jet and turn on those at the bags. Now turn on the hydrogen key at the jet, and light the gas. Place the lime at the proper distance, and let it become quite hot before turning on the oxygen. The oxygen should be turned on slowly until it appears to mix with the hydrogen in proper proportion, and gives a full, brilliant illumination. An excess of either gas will cause a hissing without producing a good light. An excess of hydrogen is indicated by a profuse red flame around the lime, and an excess of oxygen by no red flame, and a deficient illumination. The gases should be carefully

adjusted till they flow noiselessly, giving out a little red flame, and making the whole surface of the lime against which they are projected glow with an intense white light. Having secured a good illumination, let the screen be blank and proceed to adjust the jet. Move it up and down until the light seems alike at the top and bottom, then forward and back until the whole disk is evenly illuminated. With these arrangements carefully made, the exhibition may proceed smoothly and without interruption, it being only necessary that the lime should be turned occasionally, and more gas turned on as the bags get lower. When the exhibition is over, turn off the oxygen at the jet, then the hydrogen at the jet, and immediately close both keys at the bags; detach the hose from the jet, and proceed to pack up. As soon as the bags are taken into the open air, the keys should be turned and any gas remaining allowed to escape.

In cities and towns where house gas is used, it is not necessary to make hydrogen gas. The bag can be filled from a bracket, either at the place of exhibition or at home, before starting out. It will be found preferable to fill both bags beforehand, when the apparatus is to be taken short distances in a wagon or on the cars, rather than have the trouble of materials, retorts and gas-making at the place of exhibition.



**DIAGRAM OF DISSOLVING KEY AND SATURATOR.**

*S, S, S,* represent the three-tube Saturator.  
*Oz,* indicates the pipe leading to the oxygen reservoir.

*H, H,* indicate the pipes conveying hydrogen or ether vapor.

*O, O,* those conveying oxygen.

*1 and 2,* the mixing chambers of the Lanterns.

*C, C,* Lantern keys.

*L,* the lever which turns the lights off and on.

To use this dissolver with oxy-hydrogen disconnect the Saturator from *H* and

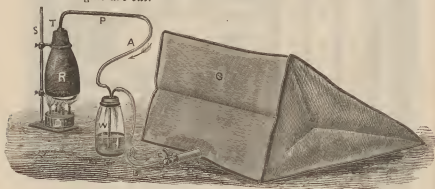
*O,* and connect the bags or cylinders with these points. It is important that the connections be made exactly as shown, for the construction of the mixing chambers is such that when the gases are reversed the light cannot work satisfactorily. As the lever *L* is turned to the right the light is turned on at Jet No. 2; if turned to the left, a slight blue flame remains at No. 2, and the full light appears at No. 1.

The arrows mark the direction of the gases.

The most common obstacle to perfect success in dissolving with the ether-oxygen light is the snapping out of the flame. A few suggestions regarding this may be of use to the amateur. Many of the keys in the market are not adapted for use with ether; when this is the case they must be sent to the manufacturer to make the necessary alterations. Very accurate adjustment is needed when the cylinder is used to supply oxygen, to secure against "snapping," and at the same time to avoid a considerable lessening of the amount of light at the half-way point. In a very cold room evaporation may be retarded, and consequently an insufficient supply of ether vapor be furnished. The remedy is to heat flannel or any similar material, and wrap about the Saturator. Persons unaccustomed to handling this light may turn on too much oxygen or too little ether, when a snap will sometimes occur. Too small pressure on the oxygen may produce the same result.

**TO TURN OFF THE LIGHT WHEN THE DISSOLVING KEY IS USED WITH THE ETHER SATURATOR.**—Move the lever *L* to one side, turn off first the light that burns low, in regular order, namely: First the oxygen key, then the ether key; next, *without moving L*, turn off the oxygen key from the bright light; then the ether key, and instantly turn off the key at the oxygen reservoir.

**TO TURN OUT THE LIGHT WHEN THE DISSOLVER IS USED WITH CYLINDERS.**—Move lever *L* into centre to give equal light at both jets, then turn off the oxygen at its cylinder, and immediately turn off the hydrogen at its cylinder. *When cylinders are used in dissolving with the oxy-hydrogen light, all keys of Dissolver are left open until the lights are out.*



## TO MAKE OXYGEN GAS.

This gas is the product of chlorate of potash when submitted to heat, assisted in its decomposition, and the flow of gas moderated, by black oxide of manganese. To fill a 30 x 40 gas bag, the quantity necessary to run a lantern for dissolving about two hours, take twenty-four ounces of chlorate of potash and six ounces of black oxide of manganese. Mix well together, and place in the retort, after seeing that the latter is thoroughly dry and free from old residues, if it has been used before.

The accompanying cut will show the arrangement of the retort, wash bottle, and bag. An alcohol lamp is here shown, but a Bunsen burner, or any fire that will give sufficient heat, will do. A good heat should be applied at first, but as the gas begins to pass over freely a more moderate heat is needed to make the gas flow with regularity. If, however, all heat be removed before the retort be disconnected with the wash bottle, water may be sucked back into the retort and cause an explosion. *R* represents our copper retort fitted at the top with a two inch ground stopper *T*, that acts as a safety-valve when the pressure becomes too great. (When a sheet-iron retort is used, the top is luted on with plaster of Paris; it dries hard in a few moments, and is then ready for making the gas.) *P* is a metal pipe, terminating in a brass nipple for connection with rubber pipe *A* from the wash bottle *W*. The wash bottle has two metal pipes soldered in its cover; the longer one is to be connected with the retort, and through it the newly made gas passes through the water to wash out the particles that are carried over with it, and which, if left in the gas, would be driven into the jet and prevent the flow of gases. The shorter tube conveys the gas from the upper part of the bottle through the rubber pipe *B* and stop cock *C* into the bag. It is better, if possible, to place the bag on a table or some place higher than the wash bottle, so as to avoid as much as possible any water being carried over by the rapid flow of gas, as any dampness in connection with the oxygen gas soon rots the bag. Chlorine gas is also very injurious to the bag, and to prevent its being carried over with the oxygen, add a few crystals of common washing soda (sal soda) to the water in the wash bottle.

**PRECAUTIONS.**—Accidents have happened in making oxygen, but they are invariably due to gross carelessness. No one who has not some knowledge of chemistry, should undertake to make gases without reading and fully understanding the steps herein described. The chlorate of potash and manganese should be examined for small bits of straw, sticks, or other foreign substances. Practically the only danger is lest soot or charcoal be mixed with the samples.

Never allow bystanders to take a part in making the gas. We have known an explosion caused by a curious spectator who pinched the rubber tube between the wash bottle and the bag while the gas was being rapidly made, the sudden check in the flow of gas forced water back into the retort. If by any accident the retort should fall off the fire, do not replace until certain that the neck of the retort and pipes are clean, as the charge may choke the outlets and cause an explosion. In making oxygen gas, many persons put their iron or copper retorts away with the spent charge left in, either in a dry state or wet. This slowly destroys the metal. The retort should, when somewhat cool, be half filled with water (either cold or warm), which will dissolve the charge; wash this out until entirely cleaned. Now place the retort upon the gas or fire until all dampness has dried out, and it can then be put away until again required. This will make the retort last double the time. The charge should not in any case be knocked out with an iron rod.

Should you wish to know if a retort be unfit for further use, you

can do so by means of a small piece of iron or the back blade of a pocket knife. By knocking (when empty) you may ascertain by the sound what thickness it is. Never risk a faulty retort.

RECAPITULATION OF PROCESS. 1.—Weigh out 24 ounces chlorate potash, and 6 ounces black oxide of manganese; mix them, and heat a small amount in an iron spoon. If they are pure, they will melt and dry up, leaving a gray residue; if impure, they will not melt, but flash up with a slight explosion, leaving a whitish mass, with red spots over the surface; in the latter case they are dangerous.

2.—See that the retort is perfectly clean and dry, then pour in the chemicals. If the copper retort is employed, fit in the ground stopper; if the sheet iron retort, lute on the cover and fasten at suitable height on the retort stand.

3.—Fill the wash bottle half full of water containing a lump of washing soda the size of a small hickory nut.

4.—Open the stop cock of the bag wide, remove all weight from the top, and place it above the level of the wash bottle.

5.—*Blow through all the pipes to see that they are free from obstruction.*

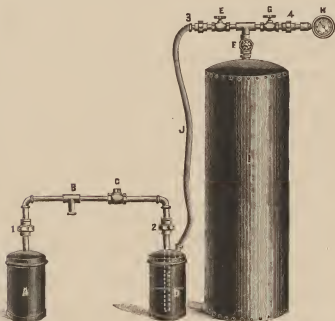
6.—Light the lamp and place it under the retort, and at the same time connect *P* with the long tube of the wash bottle. In ten to twenty minutes (depending on the heat), bubbles of gas will come through the water in the wash bottle; when the air is expelled, *and not sooner*, connect the short tube of the wash bottle with the bag.

7.—If the gas begins to come over violently so as to throw the water into the pipes, lessen the heat by turning down the flame, or drawing the lamp a little away from the retort.

8.—Should the flow of gas stop before the bag is full, which is shown by the water in the wash bottle ceasing to bubble, do not disturb it; it will soon begin again and go on rapidly till the bag is filled. If the lamp has been removed, replace it, or increase the heat a little.

9.—When the bag is full, or no more gas passes over, *first disconnect the retort from the wash bottle*, then close the stop cock of the bag, and disconnect it from the wash bottle, and proceed to clean the retort.

## THE McINTOSH-ARNOLD SELF-CONDENSING OXYGEN RETORT & CYLINDER.



PRICE ..... \$100.00

### DESCRIPTION.

Nos. 1, 2, 3, 4 are Unions, *A* retort, *B* Safety Blow-Out, *C* Check Valve, *D* Wash Bottle, *E*, *F*, *G* Globe Valves, *H* Gauge, *I* cylinder, *J* Flexible High Pressure Tubing. In this outfit we present to the exhibitor the triumph of mechanical ingenuity and skill; no pumping, no carrying up and down stairs of heavy weights for your gas bags; no fear that some thoughtless or mischievous boy can pierce the bag with his knife blade; does all the work itself, and all the gas left over at the close of an entertainment is saved for the next exhibition; saves 50 per cent of the cost in the manufacture of oxygen over that purchased already compressed.

## DIRECTIONS FOR THE MANUFACTURE OF OXYGEN WITH THIS APPARATUS.

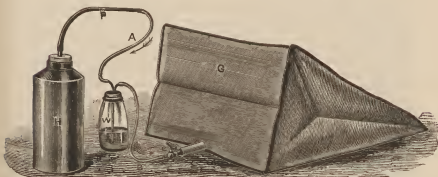
Supposing the apparatus to be already connected up, as depicted in cut; disconnect Unions Nos. 2 and 1; fill the wash bottle *D* half full of water, into which has been placed a couple of teaspoonfuls of bicarbonate of soda; this is to neutralize the acidulation obtained in the generation of oxygen. Place in retort *A* two packages, or, in quantity, three pounds of potassium chlorate, and one pound black binoxide of manganese, pouring same through a large tin funnel, into the pipe at Union 1. Fasten down Unions Nos. 1 and 2 again tightly; no undue exertion is needed; only have them fit firmly and closely onto the washers, so that no leakage is possible. Allow Union No. 3 to be slightly open; apply heat to *A*; this you can do by means of an ordinary cook stove, an ordinary heating stove, where it is possible to get the retort into the stove onto the fire, or it can be made over an ordinary gasoline stove, or, in fact, in the open air, by building a fire under it. An ordinary soap or cracker box smashed to pieces will afford heat enough for the generation of oxygen. Having applied heat for two or three minutes, until you can hear a bubbling in the wash bottle, which, at the beginning, indicates that the hot air is passing over and out, escaping at Union 3; having waited for not more than two or three minutes, close Union 3 tightly; open the valves *E*, *F*, *G*, which allows the gas to not only enter the cylinder, but at the same time it presses on the gauge; you do not need great heat; oxygen is of a better quality when made slowly than rapidly. It is not necessary to get the retort to a red heat, although a dull red is not objectionable. From these two packages, or from the exact quantity above given, 65 pounds pressure should be indicated on the gauge. When the gas has ceased making, which is indicated by the cessation of the bubbling in the wash bottle, and also by the indicating needle of the gauge remaining stationary, then close globe valve *F* tightly, disconnect Union No. 1, and, while the retort is still warm, wash it out thoroughly with water until it is perfectly clean, dry it thoroughly, place in it one package of 24 oz. of potassium chlorate, and 8 oz. of black binoxide of manganese. Fasten tightly Union No. 1, again loosening slightly union No. 3. Apply heat; allow the hot air to escape as before.

Close Union 3 tightly and open up globe valves *E* and *G* (not *F*), and allow the gas to pass through against the gauge until the pressure on the gauge *exceeds* that already in the cylin-



der from the first generating. As soon as the outside pressure as indicated on the gauge, exceeds that already in the cylinder, open up globe valve *F*, and allow the gas to enter the cylinder. This second charging should give you 100 pounds pressure to the square inch, this being the amount to which we recommend that this apparatus should be charged. With this amount of pressure, you have in this sized cylinder (12 inches in diameter by 42 inches in height),  $18\frac{1}{2}$  cubic feet, nearly enough for four solid hours of work; in fact enough for two complete lectures, although it is advisable to always make gas before each entertainment, so that you can guard against any accident by leakage or otherwise. Gas having ceased to come over, close valve *F* tight; disconnect the apparatus at unions 1, 2 and 3, and at *F* unscrew the cross-piece from the top valve *F*, and into valve *F*, then you screw the plug cap with washer so that no leakage can occur, supposing some idle hands carelessly tamper with the globe valve *F*. When about to use the cylinder with the valve *F* still closed, unscrew the plug-cap, and screw firmly into its place with a washer underneath, the double needle valve; then open up the globe-valve *F*, and the gas goes onto the main spindle of the needle-valve, which you open widely; this lets the gas go onto the small needle or wheel-valve, as it is sometimes called. With this smaller needle-valve you effect the adjustment of the gases. Having adjusted it properly you can leave this small needle-valve adjusted, just as it is, and closing the main spindle the pressure is shut off, and yet the equilibrium of gas necessary for perfect light is established, and is in good shape and order for the entertainment; when you commence your entertainment, all that is necessary is to open up the main spindle of needle-valve. The Safety Blow-Out *B* is a safeguard against any explosion that could possibly occur. It is provided with a thin metallic disc that will blow out or burst at a pressure of 200 pounds to the square inch. It is well from time to time to examine this blow-out disc and see that the metal is not corroded. Should it show evidences of roughness or corrosion, put in a new plate. This is an efficient safeguard, and no dangerous accident can occur. Another safeguard is the Check-Valve *C*, which, should one carelessly open up the globe-valve *F* before the outside pressure had exceeded that already left in the cylinder at the close of the last entertainment, or of the first generation of gas, would prevent the driving of the water back into the

retort. *J* is a piece of flexible tubing, or as it is sometimes called, high-pressure steam hose, and being flexible enables the wash-bottle and retort to be used at any angle, so that any style of stove or heating apparatus can be used for generating gas. The washers furnished with this outfit are Asbestos; ordinary sole-leather washers, however, can be used just as well, the only precaution being that they must be kept soft and pliable by soaking them in warm water and keeping them in oil when not in use. A careful attention to these details which have been given at length in order that the novice may have every direction for his guidance, regard being paid to closing unions tightly, and that the washers should always be soft and pliable, and a good grade of potassium, preferably the French chlorate; that the chemicals are free from impurities, that no straw, bit of paper, or chip, or piece of string be mixed with them, will insure a safe and easy method of generating oxygen to high pressure, which can only be appreciated by those who have used it. With this outfit is furnished a large wrench for the tightening up of the large burrs of the various unions, a long poker for breaking up the slag and debris in cleaning out the retort, a funnel for pouring the chemicals into the retort, plug-cap for safeguard against the escape of gas, and a number of extra washers, and also a number of metallic discs to be used in the safety blow-out.



### TO MAKE HYDROGEN GAS.

Hydrogen being one of the constituents of water, is produced therefrom by the decomposing action of zinc and sulphuric acid. Make one gallon of a solution of one part of strong sulphuric acid to seven parts of water. As this combination generates considerable heat, it should be prepared in an earthen vessel, and long enough before it is required for use to permit of its cooling; then pour the dilute acid into the generator *H*. There is attached to the stopper an open basket, in which is placed  $1\frac{1}{2}$  pounds of scrap zinc. Immerse the basket in the dilute acid, and at the same instant quickly press the cork into the neck of the generator; the action will soon commence, as shown by the bubbling in the wash bottle. The action should be allowed to proceed for a few moments, so as to be sure that all air has been expelled; then make the connection with the bag, seeing that the key is turned so as to permit the gas to flow. The accompanying cut will show the arrangement of the apparatus.

**PRECAUTIONS IN MAKING HYDROGEN.**—Be careful to see that all the tubes are open; this is ascertained by blowing through them. Let the wash bottle be filled about half full of water. Expel all air from the bag before commencing to fill it, by rolling it up from the small end. When filled, turn off the stop cock and separate the connections. After being used, all gas should be expelled from the hydrogen bag, as the bag would be injured by allowing it to remain

### GAS BAG.

PRICE of best quality, 30 x 40 Bag, with Stop Cock .....\$22.00

We furnish a very superior quality of gas bag; the material consists of two layers of rubber and two of canvas, with all the edges vulcanized together, and bound in a firm and substantial manner to give them extra strength. A deep gusset greatly increases the capacity without adding materially to its weight or bulk when packed. The stop cock is of our own manufacture, and especially adapted for use with this bag. It is very accurately fitted, so that no leakage of gas can occur. A special feature is a separate brass collar, permanently fastened in the opening of the bag, into which the stop cock fits, and from which it can be removed in a moment to repair fittings or to clear out any dirt that may accidentally enter the bag.

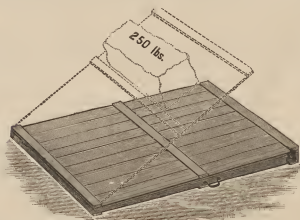
It is better to have a large size bag, because some gas is needed in preliminary adjustment, and as there will always be a slight variation in amount used during an entertainment, and for two hours' work a bag 30 x 40 inches is most desirable. Only the best bags are worth having, and such will last for years if the gas is properly washed and all taps and metal fittings are cleaned and oiled occasionally. All bags we furnish are tested with a much greater weight than it is ever necessary to use in working either a single or dissolving Stereopticon.

*When bags are used for both gases, care should be observed to keep each bag for its particular gas, as explosions have been caused by using the oxygen bag for hydrogen, and vice versa.* To obviate mistakes of this kind, it is well to have some distinguishing feature about the bags, so that even in the dark they can be readily identified.

## PRESSURE BOARDS.

PRICE.....\$7.00

These Pressure Boards are hinged together in the form of a wedge shaped box, with handle and lock, in which the gas bag is carried. It is shown closed and locked, ready for transportation. The dotted lines show the position of the cover when the bag is filled with gas. The cross-bar prevents the weight from rolling off, and keeps it on the forward part of the bag; this position distributes the pressure more evenly than if placed in the centre of the cover. The bag can be carried without folding or creasing, and is protected from splinters and roughness of floors when in use. This form of pressure board adds considerably to the durability of the gas bag.



A single pressure board may be employed if preferred; it can be made by any carpenter. It should be not less than 32 x 42 inches, perfectly smooth on the surface next the bag. On the lower edge of its upper surface is fastened a batten to hold two strap hinges; the free ends of these hinges are screwed to the floor. Six inches back of the upper edge is another batten to hold the weight in place.

These battens should be fastened on with screws, which must not project through the board, otherwise they will wear holes in the bag. To prevent the bag from slipping out from under the pressure board when the weight is adjusted, two leather straps may be fastened upon the upper edge of the board, and be brought down across the bellows end of the bag, and fastened to the floor. The latter must be free from sand, nails or splinters, as these are liable to injure the bag. A sharp tack, carelessly left under it, has been known to puncture it, under great pressure.

## THE SCREEN.

The white surface that receives the projected picture is called the screen. It may be a white finished wall, or a white cloth properly mounted. The back of a wall map, if clean and white, may be used. Whatever form of screen is selected must be perfectly smooth, and *its surface must be parallel with the front of the objective*. It may be of any size, but for convenience should be not more than a foot or two larger in diameter than the largest size disk to be employed. Exhibitors who wish to use both large and small halls find it convenient to carry two screens of different sizes. Those we manufacture are of the best quality of heavy bleached cotton; they have a firm border of thick, non-elastic webbing, stitched entirely around the edge, with brass rings about one inch in diameter at intervals of two feet. Screw eyes of sufficient size to hold the guy ropes are fastened in the floor and ceiling, and the screen is drawn smooth and free from wrinkles. Very careful adjustment is required when the microscope attachment is employed. The four corners of the screen must be equi-distant from the objective. A convenient method of ascertaining a correct position is to tie a long cord to the objective, and measure the distance to each corner of the screen.

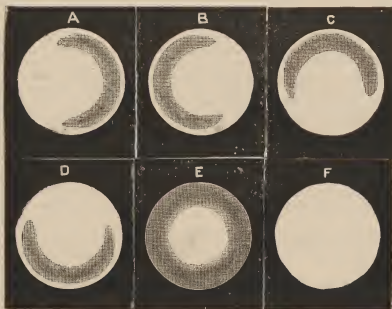
If the center of the screen is on a higher level than the lantern, the front of the latter must be elevated until the disk of light will fall on the center of the screen. Sometimes it is necessary to tilt the upper part of the screen forward to make its center parallel with the Lantern Lens.

All of our screens are provided with two very strong rings, capable of sustaining enormous strain, at each corner. A few directions as to the easy way of hanging a large screen will not come amiss to the amateur; 3 ropes are necessary for hanging a screen in this manner: purchase 200 feet of No. 7 or 8 sash weight cord, which, if an A No. 1 quality, is capable of standing a tensile strain of 600 pounds. One rope you never cut; the other one you cut in half; this gives you three pieces, one 100 feet long and two 50 feet long. Lay your screen on the floor under the place where you wish to hang it. At one side of the hall place a strong screw eye in the floor or base boards, of one-fourth inch wire at least; to this ring fasten one end of the 100

foot rope and also one end of one of the 50 foot ropes; then carrying the other ends of both of these pieces of rope in your hands or tied round your waist, ascend your step-ladder and place another strong screw eye in the wall, rafter, or pillar, at the desired height; through this ring pass both ends of the ropes; descend your ladder and fasten the other end of the short piece to one of the rings in the corner of the screen; the end of the 100 foot rope you do not make fast at all, but carry or thread it, as we might say, through all of the rings on the top of the screen. Then having made fast one end of the remaining 50 foot rope to one of the corner rings, you ascend your step-ladder on the opposite side of the hall or room, and having placed your screw eye in the wall there, carry the ropes through and descend your ladder, place a screw eye in the floor or base board on that side of the room. You have now finished climbing, and yet your screen remains on the floor. Now, if you pull up tightly, taking up all of the slack in the 100 foot piece of rope, it will stretch across the auditorium like a wire; put on all the strength you have, and if necessary call some one to help you and make it fast. Now, by tightening the two short ropes on either side, you spread out the screen on the rope, and can slide it back and forth into any desired position; then having drawn the short ropes tightly, make them fast in the same screw eyes to which are attached the ends of the long rope. Now, all that is necessary is to make fast to the floor the lower corners of screen, having them either on a line with the other screw eyes, or if the stereopticon is in the gallery pointing down, carry the lower margin of screen slightly forward, so that all the corners of the screen are equidistant from the lantern; on the other hand, should the lantern be on the floor and pointing a little above the level, carry the lower margin of the screen slightly backward, and fasten with small screw eyes in the floor. The point to be borne in mind, is that for perfect definition on the screen, the four corners must be equidistant from the lantern. One strong feature about this method of raising the screen, is that the screw eyes, being of trifling value, can be left in the wall to be used at the next entertainment; all you have to do is to loosen your ropes and you can pull them right out, and thus save the bother and trouble of climbing up again.

## TO FOCUS THE LIGHT.

When the lime begins to give out a brilliant white light, move it towards the condenser (if the mechanical jet is the one used, this is done by rod *C*.) until the disk of light on the screen is evenly illuminated, as in Fig. *F*. Reference to the following cuts will enable the operator to locate the light to produce a perfect disk.



When the disk resembles Fig. *A*, the light must be moved to the left; Fig. *B*, it must be moved to the right; Fig. *C*, the light must be lowered; Fig. *D*, it must be raised. If the disk is surrounded by a dark blue border, as in *E*, the light is too near the condenser, and must be moved back; if, on the contrary, this ring is of an orange hue, the light is too far from the condenser, and must be moved forward.

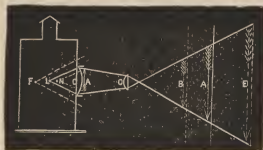


Fig. G.

In this illustration the correct location of the light is shown at *L*; all the rays fall within the area of the condenser. *F* represents the light located too far from the condenser, so that a portion of the rays

pass outside of it and are lost ; when the light is too near, as at *N*, the rays do not fully illuminate the image.

**THE SIZE OF DISK.**—The size of the illuminated circle on the screen, with a given lens, depends upon its distance from the screen. In Fig. *G* the arrow *A* is shown of a certain size on the screen, its length is equal to the diameter of the cone of light at that point. If the screen be moved nearer, as at *B*, the cone of light is intercepted at a point where the diameter is less, therefore the image will be smaller. If the screen be removed to *E*, where the rays have widely diverged, the image will be correspondingly enlarged. The rays of light nearer the lens being more condensed, a brighter image will be shown at *B* than at *E*, where they are diffused over a larger surface. *The shorter the distance between the lens and the screen, the smaller and brighter the image; the greater the distance between the lens and the screen the larger and less bright the image.* The distance can be considerably varied without impairing the image on the screen when sunlight, the electric light, or the lime-light are employed, but with an oil light it is practically impossible to produce a satisfactory picture of more than ten feet in diameter.

**INVERSION OF IMAGE.**—It is necessary to invert the slides as they are placed in the focus of the Lantern Lens for a reason which will be apparent on examination of Fig. *G*. Since the rays of light come to a focus, and cross at a certain distance from a lens, it follows that the rays from the upper part of the object, near the condenser, will be thrown on the lower margin of the screen, and *vice versa*, giving an inverted image of the object. To make this image appear right side up to the audience, the slide must be wrong side up in the lantern.

**TO FOCUS IMAGE ON SCREEN.**—The milled head screw on the Stereopticon Lens is to be turned until the image comes out distinct and sharply defined upon the screen. If this screw is turned as much as possible without bringing out the image clearly, it will be necessary to lengthen or shorten the sliding tube which holds the lens. A little practice will enable the operator to adjust the focus instantly.

**TO SHOW THE SLIDES.**—As photographic transparencies from different manufacturers vary somewhat in size, the Slide Carriers furnished with the McIntosh Lanterns are adjustable for different sizes. The transparencies show to better advantage when they are correctly placed before the condenser. Each new lot should be examined and marked by a slip of paper pasted across one corner, to indicate which is the front side.

**TO LIGHT THE SUNLIGHT LAMP.**—Use only the best grade of coal oil, not less than 150° test. Elaine is preferable when it can be obtained. Twelve fluid ounces of oil is sufficient for a two hours exhibition, and no more should be poured into the lamp, as it is necessary to leave about half an inch unfilled, so that the lantern front may be raised without spilling the oil. Place the lamp in the lantern, take off the reflector and raise the hinged glass to light the wicks. The wicks must be evenly trimmed, and turned very low when first lighted ; in a second or two very slowly raise each wick a little at a time,



waiting not less than five minutes before the full effect is obtained. The light must not be turned so high as to smoke. When a full and perfectly white flame is produced, lower the hinged glass, replace the reflector and close the lantern door.

## HOW TO MANAGE AN EXHIBITION.

The beginner should be provided with a list of all the apparatus and materials needed for an exhibition, and before starting out should see that nothing is omitted, otherwise he is liable to find something missing at the last moment which will interfere with his arrangements.

**TO LOCATE THE LANTERN.**—When the distance at which the lantern will cover a certain sized screen is known, then the whole apparatus may be placed without any hesitation; but if this is not known, or a different size objective is used, as is often necessary to accommodate the size of the hall, then the apparatus should be set up temporarily, and a trial made to see if the distance be correct. With many of the objectives used the size of the picture thrown will be just half the distance between the lantern and the screen, *i. e.*, if the lantern be twenty feet away, the size of the picture will be ten feet. These objectives answer well for an illumination of from twelve to fifteen feet, but when it is required larger than this, as is often the case with the oxy-hydrogen light, then a larger objective should be used.

**LOCATION OF GAS-BAG.**—It should be located as near as possible to the lantern, taking care that it is placed so that the hose conveying the gas from the bag cannot be trodden upon. *When the oxy-hydrogen light is used* two bags will be needed. They may be placed between pressure-boards, one above the other, or they may be placed side by side, with a single board on each, while a narrower board reaches across both and receives the weights. Whichever arrangement is adopted, the weights should be so placed as to give an equal pressure on each bag. It is not necessary to carry heavy weights about for this purpose, as something may always be found—a keg or two of nails, a lot of window weights, kegs of white lead, or some rocks from a neighboring stone wall. One hundred and fifty pounds pressure will usually be sufficient when the bags are one above the other, but if placed side by side, then the weight required will be about double.

Attach the hose to the bags, and be careful that the proper connections are made with the jet. Never use the same hose for the lantern connections that has been used to connect retort with wash bottle in making gas. Always place each gas on the same side, *i. e.*, the hydrogen on the left and the oxygen on the right.

*Blow through all the pipes to make certain that they are not obstructed.*

**THE SCREEN** should be located as near the central part of the end of the hall as possible. It must be drawn perfectly smooth and stand parallel with the end of the objective. When placed higher than the lantern, it may be tilted forward a little at the top, while the lantern is raised by placing a block under the front legs to make the front

lens of the objective parallel with the surface of the screen. If this is not done it will be impossible to illuminate all portions of the picture evenly at the same time. If it becomes necessary to place the lantern behind the screen, the latter must be thoroughly wet to make it transparent.

THE SATURATOR should not be connected with the lantern until ready to light up. It may, however, be filled by daylight (the metal caps screwed on *V V*), and placed beside the lantern ready to connect.

THE LENSES must be clean. If a damp fog appears when the lantern is first lighted, it must be allowed gradually to disappear, before anything can be done. If it does not disappear in two or three seconds the glass is not clean, although it may appear to be so to the eye. Avoid touching the polished surface with the fingers; they will leave a mark upon it. They must be cleaned as described in Part I. under microscope objectives, with a little alcohol applied with cotton wool.

WHEN READY TO COMMENCE, darken the room as completely as possible; see that all keys are closed; connect the Saturator, *draw the jet back from the condenser*; insert the lime in its holder; place the weights on the pressure boards, and start the light as previously described. When the lime begins to give forth a brilliant glow, move the jet nearer the condenser, and focus the light on the screen.

ARRANGEMENT OF SLIDES.—The slides should be carefully arranged so that all will be the same way up, with the fronts all in the same direction. They must also be in the exact order described in the lecture. Carelessness in this particular often leads to ridiculous results.

SIGNALS.—The lecturer and operator usually settle upon some signal for changing the views. The reading lamp we furnish is provided with a small bell, also a colored light, which is covered and uncovered by a slide; either signal can be selected.

## LANTERN SLIDES.

These, probably the most beautiful and most extensively useful of all photographic productions may be produced either by copying, in a suitable camera, or by super-position. The former is the method generally adopted by those who make them commercially, or where they are to be reduced from larger negatives; the latter is almost universally employed by those who make them only for their own use.

As those who possess good lanterns are generally photographers, and make negatives of a size and quality suitable for printing by super-position, and as by that method slides of the highest quality can be made with certainty and simplicity, we append the following brief synopsis of the operation:

Good pictures may be made on any slow, clean-working, gelatino-bromide plate, but it is better to use the gelatino-albumen, or gelatino-chloride, specially prepared by various makers for the purpose, either of the English standard  $3\frac{1}{4}$  inches square, or as is more generally used in America  $4\frac{1}{4} \times 3\frac{1}{4}$ .

The following solutions are required, and as they will keep indefinitely they may be made in large quantities:

### No. 1.—OXALATE SOLUTION.

Sulphite of soda .....	1 oz.
Citric acid .....	60 gr.
Water .....	32 oz.
<i>Dissolve, and add neutral oxalate of potash .....</i>	<i>8 oz.</i>

After solution, immerse a strip of litmus paper, and if it remains blue add a solution of citric acid (100 grs. to the ounce), a few drops at a time, until alkalinity is just removed and the paper changes faintly red; then add 200 grains of citric acid and water, if needed, to make the bulk measure 40 fluid ounces, filter, and it is ready.

### No. 2.—IRON SOLUTION.

Sulphate of Iron .....	8 oz.
Water .....	32 oz.
<i>Dissolve, filter and add sulphuric acid .....</i>	<i>40 drops.</i>

### No. 3.—FIXING SOLUTION.

Hyposulphite of soda .....	4 oz.
Water .....	20 oz.

### No. 4.—CLEARING SOLUTION.

Cyanide of potassium (pure) .....	60 gr.
Water .....	6 oz.

Measure off 1 oz. of the solution, and to the remainder add tincture of iodine until a slight color remains, showing the solution to be saturated; then add the 1 oz. reserved, and it will at once be cleared. Its use will be explained further on.

### No. 5.—BROMIDE SOLUTION.

Bromide of potassium .....	1 oz.
Water .....	9 oz.

The method of operation is as follows: In a room lighted only by a ruby or orange light, place the negative in the printing frame, the prepared plate on the negative just as the paper is placed in ordinary printing, but using several folds of canton flannel or other soft

material between the plate and the back of the frame to secure close contact between the two glasses without risk of breakage. Expose to a gas flame or oil lamp for from ten to twenty seconds, or more or less, depending on the size of flame and density of the negative, and proceed to develop in the ordinary way. Mix in a graduated measure in the following order:

No. 1, Oxalate solution.....	2½ ounces.
No. 2, Iron solution.....	½ ounce.
No. 5, Bromide solution.....	½ drachm.

And having placed the plate in a suitable tray, pour the solution over it and watch for the result.

With a properly exposed plate, the image should begin to show in from 15 to 18 seconds, and be allowed to continue until what constitutes the bright light shows full of detail, then wash off the developer and fix in the hypo. solution, No. 3, letting it remain a few minutes after all the unreduced bromide is apparently dissolved; next, wash a few minutes, then immerse from three to five minutes in the **alum bath, made by dissolving two ounces of powdered alum in thirty ounces of water.** After another good wash, and while the water is running over the plate, pass a broad camel-hair brush over the surface, after which set it up to dry.

The clearing solution, No. 4, is used, when from slight over-exposure to the light, or too prolonged development, or from lack of proper density in the negative, the parts of the positive that should show clear glass are slightly tinted. A careful application of it with a camel-hair brush will remove it.

The tone of the transparencies can be varied somewhat by varying the length of exposure and strength of developer. A short exposure and a strong developer made of

No. 1, Oxalate solution.....	2 oz.
No. 2, Iron solution.....	½ oz.
No. 3, Bromide solution.....	½ dr.

will give a rather cold tone; the same diluted to 8 ounces with water, giving a longer exposure, will give a warm, brown tone; while a mixture half new mixed and half old gives a rich tone. It is a safe proceeding, also, to immerse the exposed plate for a minute or so in an old developer. and to add new to that to bring up the image.

#### OUTFIT No. 1, Price \$25.00, consists of

One Society Sciopticon, with one pair 4½-inch condensing lenses, one short focus, achromatic objective or magnifying glass; a two-wick lamp with chimney, reflector, and slide carrier; in a neat packing case.

#### OUTFIT No. 2, Price \$35.00, is made up of

One Argand Sciopticon, with one pair 4½-inch condensing lenses, one short focus achromatic objective or magnifying glass, one A No. 1 Argand Student Lamp and reflector, slide carrier; in a neat traveling case, with hinged door, lock and handle.

Without Student Lamp, allowing the purchaser to make use of his own Student Lamp.....\$30.00

#### OUTFIT No. 3, Price \$40.00, consisting of

One McIntosh Sciopticon, with 4½-inch condensers, Achromatic Stereopticon Objective, Sun-Light Lamp, Slide Carrier and Stop, in neat packing case, with hinged lid, lock and handle.

**OUTFIT No. 4. Price \$100.00, includes**

A McIntosh Sciopticon, with  $4\frac{1}{2}$ -inch condensers, Achromatic Stereopticon Objective, Adjustable Jet for mixed gases, and the following accessories:—Ether Saturator No. 1, Tin Funnel, T Tube (Oxygen Divider), a 30x40 best quality canvas covered Rubber Gas Bag, Sheet Steel Retort, Retort Stand, Wash Bottle, Alcohol Lamp, one dozen Lime Cylinders, half-dozen packages of chemicals for Oxygen, 2 lbs. best Ether, 20 feet Rubber Tubing for connections, Screen 15x15, packing case with hinged lid, lock and handles.

The above outfit, with Sun-Light Lamp (extra).....\$112.50

**OUTFIT No. 5. Price, \$130.00, consisting of**

An Exhibitor's Stereopticon, with sliding front,  $4\frac{1}{2}$  inch Condensers, Achromatic Double Combination Stereopticon Lenses for different distances, Slide Carrier with Stop, Platina-tipped Jet for mixed gases, and the following accessories: Ether Saturator No. 1, Tin Funnel, Oxygen Divider (T Tube), 30 x 40, best quality canvas-covered Rubber Gas-bag, Sheet Steel Retort, Retort Stand, Wash-bottle, Alcohol Lamp, one dozen Lime Cylinders, half dozen packages of chemicals for Oxygen, three lbs. best Ether, 20 feet Rubber Tubing for connections, Screen 15x15, packing case, with hinged lid, lock and handle

**OUTFIT No. 6. Price, \$140.00.**

Is made up of the Chicago Model Sciopticon, with draw tube; one pair four and one-half inch Condensers, one Achromatic Double Combination Stereopticon Lens for different distances, Slide Carrier with Stop, Platina-tipped Jet for mixing gases, and the following accessories: Ether Saturator No. 1, Tin Funnel, Oxygen Divider, (T Tube) one 30 x 40 x 20 first quality canvas-covered Rubber Gas-bag, one Sheet Steel Retort, one Retort Stand, one Wash-bottle, one Alcohol Lamp, one dozen Lime Cylinders, one half-dozen packages of chemicals for Oxygen, 3 lbs. of ether, 20 feet of Rubber Tubing for connections, one Screen 15 x 15, one Telescope Canvas Traveling Case.

**OUTFIT No. 7. Price, \$150.00.**

One Telescope Sciopticon, solid Brass Front similar to Front of Combination Stereopticon,  $4\frac{1}{2}$ -inch Condensers, Achromatic Objective, Slide Stop, Slide Carrier, Improved Adjustable Jet for Mixed Gases, one Tube Saturator, Tin Funnel, T Tube or Oxygen Dividing Tube, a No. 1, first quality, canvas covered Rubber Gas bag, Sheet Steel Retort, Retort Stand, Purifying Bottle, Alcohol Lamp or Bunsen Burner, Lime Tongs, 100 feet Screen Rope, one dozen Limes, 2 lbs. best Ether,  $\frac{1}{2}$  dozen Chemicals, 20 feet  $\frac{1}{4}$ -inch Hose, 15x15 foot Screen, Traveling Case, (Canvas Telescope).

**OUTFIT No. 8. Price, \$160.00, consisting of**

McIntosh Combination Stereopticon, with finest quality of Condensers, first-class Achromatic Stereopticon Lens for short and long distance, Slide Carrier and Stop, our new Mechanical Jet Platina-tipped; removable front, for Solar Work, and same accessories as in Outfit No. 8.

**DISSOLVING VIEW OUTFIT No. 9. Price \$210.00.**

One Chicago Model Stereopticon, with two pair four and one-half inch Condensers, one pair matched Achromatic Objectives, one pair Platina-tipped Jets, one pair Slide Carriers, Stops, one Dissolver, one Saturator No. 3, one Tin Funnel, one T Tube, one 30 x 40 x 20 best quality canvas-covered Rubber Gas-bag, one Copper Retort, one Retort Stand, one Wash-bottle, one Alcohol Lamp, one dozen Lime Cylinders, one half-dozen packages of chemicals for oxygen, four pounds best Ether, 20 feet Rubber Tubing for connections, one Screen 20 x 20, one Telescoped Canvas Traveling Case.

**DISSOLVING VIEW OUTFIT, No. 10. Price \$225.00, consisting of**

One pair Exhibitor's Stereopticons complete, with Condensers, Achromatic Stereopticon Objectives, Platina-tipped Jets, one pair of Slide Carriers, with Stops, Dissolver, Saturator No. 2, Tin Funnel, T Tube, 30 x 40 best quality canvas-covered Rubber Gas-bag, Copper Retort, Retort Stand, Wash-bottle, Alcohol Lamp, one dozen Lime Cylinders, half dozen packages of chemicals for Oxygen, 4 lbs. best Ether, 20 feet Rubber Tubing for connections, Screen 15 x 15, packing case with hinged lid, lock and handles, suitable for a stand when exhibiting.

**DISSOLVING VIEW OUTFIT, No. 11. Price \$275.00, includes a**

McIntosh Bi-unial Stereopticon, with first quality Plano-convex Condensing Lenses, extra quality Achromatic Stereopticon Objectives, with rack work for focusing, Dissolver, one pair Slide Carriers and Stops, Mechanical Jets, Platina-tipped Saturator No. 2, and same accessories as in outfit No. 5.

**DISSOLVING VIEW OUTFIT No. 12. Price \$410.00.**

One Royal Photo-Opticon, with first quality triple Plano-convex Condensing Systems, extra quality Achromatic Stereopticon Objectives, one Dissolver, one pair Slide Carriers, one pair Slide Stops, one pair Mechanical Jets, with mechanical time movement, one Saturator No. 3, one Tin Funnel, one T Tube, one 30 x 40 x 20 best quality canvas-covered Rubber Gas-bag, one copper Retort, one Retort Stand, one Wash-bottle, one Alcohol Lamp, one dozen Lime Cylinders, one dozen packages of chemicals for Oxygen, 4 lbs. of Ether, 20 feet of Rubber Tubing, one Screen 20 x 20, one packing case with hinged lid, lock and handles.

**DISSOLVING VIEW OUTFIT No. 13 consists of a**

McIntosh Tri-Opticon, with 3 Plano-convex condensing Systems, 3 extra quality Achromatic Stereopticon Objectives, one Dissolver, with which either one or two lanterns may be used at the same time, 3 Slide Carriers, 3 Slide Stops, 3 Mechanical Jets, one Steel Cylinder for Oxygen 12 inches in diameter by 48 inches long, one Steel Cylinder for Hydrogen 12 inches in diameter by 48 inches long, both cylinders furnished with a first-class Double Needle Valves 10 feet Rubber Tubing for connections, one Screen 24 x 24, one Portable Extension Screen Frame, one packing case with hinged door, lock and handles. Price, \$500.00.

The above outfits do not include any views.

We furnish Oxygen and Hydrogen Gases, in steel cylinders of any desired capacity, compressed under enormous steam pressure. The price charged is moderate, and if the customer places his order ahead long enough, so as to have his gas shipped by freight, he will not find it very expensive.

## ILLUSTRATIONS FOR PROJECTION.

---

**I**T would be impossible to include within the limits of a catalogue a complete list of all the slides prepared for projection by the various manufacturers. We append lists which illustrate most of the subjects to which this art is applied, and can furnish in addition any special series offered by other houses, at their advertised price.

**Photographs from Nature** are the most popular because they are always beautiful and absolutely correct representations of places and objects. These are usually prepared on glass plates averaging  $3\frac{1}{4} \times 4$  inches in size, protected by a thin glass cover and bound with black paper.

**Fine Colored Photographic Views.** Those included in our lists are made only by the best artists; they are carefully sealed, to protect the colors from the action of the atmosphere, and inclosed in wood frames  $4 \times 7$  inches. We have not quoted the cheaper grades of colored views, which possess neither beauty nor merit, but only those which are artistic and pleasing to a refined taste.

**Photographs of Engravings, Diagrams, and of Microscopic Objects** can be furnished in greatest variety. They are mounted in the same style as the photographs from nature. Many diagrams can be made by the instructor by covering a suitable plate of glass with a thin film of varnish, paraffine, starch or soap and drawing the design with a sharp pointed instrument, through the film. The light can pass through only those lines where the film is removed.

**Views of Statuary** are each upon square glass slides  $3\frac{1}{4} \times 4$  inches in size, with black background.

**Chromatropes** are 3 inches in diameter, in frame 4 inches wide by 12 inches long. They produce the effect of the kaleidoscope. The pictures are produced by brilliant designs painted upon two circular glasses, and the glasses made to rotate in different directions. An endless variety of changes in the pattern are caused by turning the wheel, sometimes slowly, then quickly, backward and forward.

**Dissolving Views** consist of plain or colored slides and require two lanterns to produce the finest results. With these it

is possible to change summer to winter, day to night, the exterior of a palace to an interior. The gliding of a boat, shadowy forms of spirits or the witches and goblins of the magician's cauldron can be shown with startling effect. These views may also be varied by the use of **tinters**, or discs of colored glass, placed over the stereopticon lens.

**Microscopic Projection.** Objects intended for this purpose are usually mounted upon glass slips 1 x 3 inches in size, covered by glass and sealed. Glass cells are used for liquids. Microphotographs prepared similarly to lantern transparencies are also designed for microscope projection.

Professors and teachers can have colored or plain photographic copies made from their own designs—promptly, and in a superior manner. Designs should have sharp outlines, and be about twelve inches in diameter, done in India ink, free from colors. Any of the plain slides named in the following lists can be furnished, colored.

## Photographic Optical Lantern Slides, Lecture Sets, Etc.

### New York.

#### Plain Slides, 50 Cents.

- 1 New York City, bird's eye view
- 2 New York City, Broadway
- 3 New York City, Broadway from P. O.
- 4 New York City, Fifth Ave
- 5 New York City, South St.
- 6 New York City, City Hall
- 7 New York City, Printing House Square
- 8 New York City, Union Square
- 9 Grand Central Depot
- 10 New York City, Battery Park
- 11 New York City, Governor's Island
- 12 New York City, Bay from Wall st.
- 13 New York City, on the Mall, Central Park
- 14 New York City, Terrace, Central Park
- 15 New York City, Lake, Central Park
- 16 New York City, Grotto, Central Park
- 17 New York City, Bridle Path, Central Park
- 18 New York City, East River Bridge
- 19 New York City, East River Bridge, N. Y. Tower
- 20 New York City, Elevated R. R. near Battery
- 21 New York City, N. Y. Harbor
- 22 Sleepy Hollow, Bridge and Pool
- 23 Sleepy Hollow, the Old Mill

- 24 Sleepy Hollow, Old Dutch Church, front side
- 25 Sleepy Hollow, Old Dutch Church
- 26 Sunnyside, full view
- 27 Sunnyside, front
- 28 Andre Monument, Tarrytown
- 29 View from West Point, North
- 30 View from West Point, North
- 31 Watkins, entrance to Glen
- 32 Watkins, looking up the Glen
- 33 Watkins, Shadow Gorge
- 34 Watkins, Mammoth Gorge
- 35 Watkins, Still Water
- 36 Watkins, Spiral Gorge
- 37 Watkins, Matchless Scene
- 38 Watkins, Cascades, Glen Alpo
- 39 Watkins, Kiffin Gorge
- 40 Watkins, Sylvan Rapids
- 41 Watkins, Sylvan Cascades
- 42 Watkins, Central Cascades
- 43 Watkins, entrance to Amphitheater
- 44 Watkins, Rainbow Falls
- 45 Watkins, Amphitheater
- 46 Watkins, Great Falls
- 47 Watkins, Shower Falls
- 48 Dalles of the St. Croix
- 49 Indian River, Adirondacks
- 50 Eagle's Nest, Adirondacks
- 51 Hunter's Camp, Adirondacks

### New York City.

#### Street Scenes.

- 1 Broadway near Post Office
- 2 " looking down

- 3 Broadway looking up
- 4 Wall Street
- 5 Madison Avenue
- 6 5th Avenue, looking down
- 7 " looking up
- 8 Union Square
- 9 Madison Square
- 10 Chatham Square
- 11 Steam Fire Engine

### River and Harbor Views.

- 1 East River
- 2 Governor's Island, Landing
- 3 Governor's Island, Officers' Quarters
- 4 Iron Steamboat Pier
- 5 South Ferry
- 6 Ocean steamers, in bay
- 7 " " at dock
- 8 " " deck
- 9 Ferry Boat
- 10 Shipping
- 11 East River Bridge, Tower
- 12 East River Bridge, Span
- 13 " " Approach
- 14 East River Bridge, general view
- 15 East River Bridge, Brooklyn approach
- 16 East River Bridge, Stairway, where the accident, May 30, 1883, occurred
- 17 Harlem Railroad Bridge
- 18 Harlem Bridge
- 19 High Bridge
- 20 Steamer Osseco
- 21 " Providence
- 22 " Bristol
- 23 " Bristol, Interior
- 24 " Narragansett
- 25 Grain Elevator



*Prominent Buildings.*

- 1 Castle Garden
- 2 Barge Office, Battery Park
- 3 Custom House
- 4 Post Office, front
- 5 " " rear
- 6 Treasury, Wall St
- 7 City Hall
- 8 Court House
- 9 Tombs Prison
- 10 Jefferson Market Court House
- 11 Five Points House of Industry
- 12 Blackwell's Island
- 13 N. Y. Herald Office
- 14 N. Y. Tribune Office
- 15 Staats Zeitung Office
- 16 Bible House
- 17 Y. M. C. Association
- 18 Western Union Telegraph
- 19 Equitable Life Ins. Co
- 20 Stock Exchange, exterior
- 21 " " interior
- 22 New Produce Exchange
- 23 Domestic S. M. Co
- 24 A. T. Stewart, Store
- 25 A. T. Stewart, Mansion
- 26 Vanderbilt Mansion
- 27 Historical Society
- 28 Astor Library
- 29 Lenox Library
- 30 Seventh Regiment Armory
- 31 Union League Club
- 32 Masonic Temple
- 33 Booth's Theater
- 34 Grand Opera House
- 35 Academy of Music
- 36 Academy of Design
- 37 Clinton Hall
- 38 Tammany Hall
- 39 Cooper Institute
- 40 Normal College
- 41 N. Y. College
- 42 Columbia College
- 43 United Bank Building
- 44 Union Dime Bank
- 45 Park Bank
- 46 Grand Central Depot, exterior
- 47 Grand Central Depot, interior

*Central Park.*

- 1 59th Street Entrance
- 2 5th Avenue Lake
- 3 Fountain and Terrace
- 4 Mall
- 5 Rustic Bridge and Path
- 6 Lake and Boat House
- 7 Bow Bridge
- 8 Marble Bridge
- 9 The Lock
- 10 The Lock Bridge
- 11 Metropolitan Museum
- 12 Arsenal

*Prospect Park.*

- 1 Rustic Bridge
- 2 Dairy Farm House
- 3 Goat Team
- 4 Lake

*Statues, Etc.*

- 1 Washington
- 2 Seward
- 3 Lincoln
- 4 Farragut
- 5 Franklin
- 6 Morse
- 7 Webster
- 8 Regiment

- 9 Indian Hunter
- 10 Lion and Cubs
- 11 Shakespeare
- 12 Auld Lang Syne
- 13 Arm of Liberty
- 14 Worth Monument

*Churches.*

- 1 Calvary Baptist
- 2 Catholic Cathedral, exterior
- 3 Catholic Cathedral, interior
- 4 Tabernacle, Congregational
- 5 Collegiate Dutch Reformed
- 6 Trinity, Episcopal
- 7 " " Porch
- 8 " " " Interior
- 9 St. Paul's " "
- 10 Grace " "
- 11 Holy Trinity " "
- 12 Heavenly Rest
- 13 The Little Church Around the Corner, Episcopal
- 14 Madison Avenue Synagogue, Jewish
- 15 Fifth Avenue Synagogue, Jewish
- 16 First Methodist
- 17 Dr. Hall's Presbyterian
- 18 Messiah, Unitarian
- 19 Fifth Avenue Universalist

*Hospitals.*

- 1 Bellevue
- 2 Mt. Sinai
- 3 St. Luke's
- 4 Homeopathic
- 5 Women's

*Greenwood Cemetery.*

- 1 Entrance
- 2 Lake
- 3 Canada Monument
- 4 Captains' "
- 5 Jas. G. Bennett's Monument
- 6 DeWitt Clinton's Monument
- 7 Soldiers' Monument

*Brooklyn.*

- 1 Panaroma
- 2 Fulton Ferry
- 3 City Hall, front
- 4 " " rear
- 5 Court House
- 6 Municipal Building
- 7 Plymouth Church, exterior
- 8 Plymouth Church, interior
- 9 Talmage's Church
- 10 Lincoln Statue
- 11 Deck of Man of War, Navy Yard

*Coney Island.*

- 1 Panorama
- 2 Tower
- 3 Iron Pier
- 4 Brighton Beach Hotel
- 5 Manhattan Beach Hotel
- 6 Oriental Hotel

*Niagara.*

- 1 Point View
- 2 View from Prospect Park
- 3 The American Falls from below, Winter
- 4 Terrapin Tower, Winter
- 5 American Falls, Point View

- 6 Horseshoe Falls, from Goat Island
- 7 Ice Bridge and Falls, Winter
- 8 Luna Island, Winter
- 9 American Falls, from Goat Island
- 10 Ice Bridge
- 11 Niagara Falls, Point View
- 12 Horseshoe Falls, from below
- 13 Terrapin Tower
- 14 Looking Out, from under Ice Bridge
- 15 American Falls, from Luna Island
- 16 Hermit's Cascade, and First Sister Island Bridge
- 17 Horseshoe, from Goat Island
- 18 Under the Banks
- 19 Terrapin from below
- 20 Horseshoe Falls and Profile Rock
- 21 Horseshoe Falls and Remains of Tahle Rock
- 22 Bridge to Third Sister Island
- 23 American Falls from Canada side
- 24 Tree on Luna Island
- 25 Horseshoe Falls, from Canada side
- 26 Horseshoe Falls, from Canada side
- 27 General View, from Victoria Point
- 28 General View, Niagara
- 29 Bridal Veil
- 30 Interior, Cave of the Winds
- 31 Rapids above the Falls
- 32 Moonlight, Horseshoe Falls
- 33 Sister Islands, from Goat Island
- 34 Niagara Falls and New Suspension Bridge
- 35 Whirlpool Rapids
- 36 New Suspension Bridge
- 37 Cave of the Winds, from below
- 38 Horseshoe and Three Sister Islands
- 39 General View from Canada side
- 40 Ice Mounds, front of Horseshoe Falls
- 41 Crystal Grotto
- 42 Sunset, Niagara Falls
- 43 Sunset, Niagara Falls
- 44 Moonlight Effect
- 45 Moonlight Effect
- 46 Moonlight Effect
- 47 Horseshoe Falls, from Canada side
- 48 American Falls, from below
- 49 Niagara Falls, from Canada side
- 50 Suspension Bridge, from above, on line of Erie Railway
- 51 Whirlpool Rapids and Suspension Bridge, on line of Erie Railway
- 52 Interior of Suspension Bridge, on line of Erie Railway

*Summer Resorts.*

- 1 Purgatory, Newport R. I.
- 2 Perry Statue, Newport

- 3 On the beach at Newport
  - 4 Old Stone Mill, Newport
  - 5 United States Hotel, Saratoga
  - 6 Inclined Plane on Switch Back R. R. Mauch Chunk, Penna
  - 7 Mauch Chunk and Lehigh Valley, Penna
  - 8 Mansion House, Mauch Chunk, Pa
  - 9 River View, Delaware Water Gap, Penna
  - 10 Hotels, Carriage Road and Cliff, Delaware Water Gap
  - 11 Glen Cathedral, Watkin's Glen
  - 12 Island Rock, Watkin's Glen
  - 13 Fort William Henry Hotel, Lake George
  - 14 Fort Ticonderoga, Lake George
  - 15 Sunset Rock, Catskill Mountains
  - 16 Kauterskill Falls, Catskill Mountains
  - 17 Indian Lake, Adirondack Mountains
  - 18 Raquette Lake, Adirondack Mountains
  - 19 Mount Marcy, Adirondack Mountains
  - 20 Congress Hall Spring, Saratoga
- Views of the Johnstown Disaster.**
- 1 View of Johnstown before the Flood.
  - 2 Cambria Iron and Steel Works before the Flood.
  - 3 Sang Hollow.
  - 4 On the Conemaugh River near South Fork, before the Flood.
  - 5 Old Viaduct Bridge before the Flood.
  - 6 View from Inside of the Conemaugh Lake Dam.
  - 7 Cross-section view of the Conemaugh Lake Dam.
  - 8 Wreck of Gondola Cars, B. & O. R. R.
  - 9 View of Jam at Penna. R. R. Bridge.
  - 10 View of the Valley from the West.
  - 11 On the Edge of Stony Creek. St. John's Church in distance.
  - 12 Wreck of Engine and House of the Volunteer Fire Department.
  - 13 General view in Kernville
  - 14 General view in Cambria City.
  - 15 Wreck of Houses on Line of B. & O. R. R. on Stony Creek.
  - 16 Wreck of Houses on B. & O. R. R.
  - 17 On Stony Creek, above Johnstown.
  - 18 Wreck in Upper Johnstown.
  - 19 Debris on P. R. R., Upper Johnstown.
  - 20 View of the Valley. Tent Life.
  - 21 Wreck of Business Houses, 4th Ward.
  - 22 Preserved Figure of the Virgin, St. Mary's Church.
  - 23 Wreck and debris at the Company's Stores.
  - 24 Jam of debris at P. R. R. Bridge (details).
  - 25 Wreck of the Cambria Co.'s Works.
  - 26 St. John's Church.
  - 27 B. & O. Passenger Station
  - 28 Headquarters G. A. R. relief corps.
  - 29 West End Main St., showing Merchants' Hotel.
  - 30 Effects of Flood in Stony Creek Valley.
  - 31 P. R. R. Bridge, Cambria Iron Works and Wreck.
  - 32 Looking up Conemaugh Valley from Locust St.
  - 33 P. R. R. Bridge. Hunting for Bodies.
  - 34 Looking over Cambria Iron Works, showing Bodies.
  - 35 Conemaugh River from Temporary Bridge.
  - 36 West End of Johnstown, showing the Morgue.
  - 37 Main St., from Franklin St., Wreckage 40 feet High.
  - 38 Looking up Jackson St. from Main, R. C. Church
  - 39 From Washington and Franklin Streets.
  - 40 Across Bedford Street, Effects of Back Water.
  - 41 Hunting Bodies, corner Washington and Clinton Streets.
  - 42 Remains of the Cambria Iron Works.
  - 43 Relief Station, Johnstown Station, P. R. R.
  - 44 Main and Bedford Sts., Site of Huribut House.
  - 45 Acres of Wreckage from P. R. R. Bridge. Hunting for Bodies.
  - 46 P. R. R. Bridge, Cambria Iron Works and Wreckage.
  - 47 Conemaugh River and Cambria Iron Works.
  - 48 Looking over Wreckage Towards Johnstown from P. R. R. Bridge.
  - 49 Heart of the City.
  - 50 Main St. and City Park.
  - 51 Main and Franklin Sts., showing Opera House and only Truck Team Saved.
  - 52 Wreck of the Cambria Iron Works.
  - 53 Main and Franklin sts.
  - 54 Panorama from Conemaugh River.
  - 55 Panorama from Stony Creek.
  - 56 Clinton above Main st.; the Post Office.
  - 57 From the West Bank of the Conemaugh.
  - 58 A Ruined Home.
  - 59 East End of Cambria Iron Works.
  - 60 East End of Cambria Iron Works.
  - 61 Schoolhouse, Morgue and Wreckage.
  - 62 Catholic Church and site of Huribut House.
  - 63 Up Conemaugh from Main and Clinton sts.
  - 64 Panorama of Grubtown after the Flood.
  - 65 Main st., looking down on Wreckage.
  - 66 Harper's Ferry, Va., after the Flood.
  - 67 Columbia, Pa., during the Flood.
  - 68 Looking east from School Morgue.
  - 69 P. R. R. Bridge and Great Drift.
  - 70 From West Bank of the Conemaugh.
  - 71 Looking Southwest from Main and Clinton.
  - 72 Cambria Co.'s Store and P. R. R. Station.
  - 73 Looking down Stony Creek from Pontoon Bridge.
  - 74 Looking up Stony Creek from Pontoon Bridge.
  - 75 Pontoon Bridge across Stony Creek.
  - 76 Wreckage from back water, 1st Ward.
  - 77 Looking into Kernville from Stony Creek.
  - 78 Gen. Campbell's residence, 80 Persons Saved.
  - 79 Burnt District, 1st Ward.
  - 80 Walnut near Main st.
  - 81 Walnut near Main st.
  - 82 Rear of Walnut and Main streets.
  - 83 View of wreck on Main and Walnut streets.
  - 84 Residence of Col. Linton.
  - 85 Main st., East from Vine.
  - 86 Gen'l Hasting's Headquarters.
  - 87 Millville Morgue.
  - 88 Millville Morgue, bringing in a body.
  - 89 Clearing away the Great Drift.
  - 90 Bridge st., clearing Great Drift.
  - 91 Pay Day.
  - 92 From Clinton st., toward the Point.
  - 93 Interior of First Methodist Church.
  - 94 Cambria City and Suspension Bridge.
  - 95 Up the Conemaugh from Cambria City.
  - 96 Cambria City.
  - 97 Cambria City, Chestnut and River sts.
  - 98 Cambria City, St. Mary's R. C. Church (Int.).
  - 99 Cambria City, Ruins on Railroad street.
  - 100 Cambria City, Relics.
  - 101 Cambria City, Relics.
  - 102 Up Conemaugh Valley, from B. & O. Station.
  - 103 Main St. above Franklin.
  - 104 Merchants' Hotel.
  - 105 Overflow of Conemaugh Lake.
  - 106 The Broken Dam North (Conemaugh Lake).
  - 107 The Broken Dam North (general view).
  - 108 Looking through the Break North.

- 109 Broken Dam from West Side.
- 110 Broken Dam from West Side.
- 111 Conemaugh Lake, toward Club House.
- 112 Conemaugh Lake, after the Flood.
- 113 The Dam across the Break.
- 114 Outlet to Conemaugh Lake.
- 115 The Broken Dam (south)
- 116 Up the South Fork towards the Dam.
- 117 Looking Down the South Fork.
- 118 Wreck at South Fork.
- 119 John Baker and Pony rode from the Dam to South Fork ahead of Flood.
- 120 Up Conemaugh Valley to South Fork.
- 121 Remains of Conemaugh Viaduct.
- 122 Conemaugh Trestle.
- 123 Conemaugh Viaduct before Flood.
- 124 Site of Town of Mineral Point.
- 125 Boulders Washed from Bluff, Conemaugh.
- 126 Wrecked Engines at Conemaugh.
- 127 Wrecked Engines at Conemaugh.
- 128 Wrecked Engines at Conemaugh.
- 129 Remains of Town of Conemaugh.
- 130 Site of Gautier and Wire Mills.
- 131 Ruins of Gautier and Wire Mills.
- 132 Site of Woodvale.
- 133 Main and Union streets.
- 134 Tree Driven through House.
- 135 Tree Driven through House.
- 136 Debris at Union street.
- 137 Wrecked Houses, Main and Union streets.
- 138 The Jam rear of Morrell Institute.
- 139 Wreckage rear of Morrell Institute.
- 140 View of Haines street, Kernville.
- 141 Morris street, Kernville.

**Views of the "Switzerland of America."**

- 1 View on the Schuylkill  
*Mauch Chunk.*
- 1 Canal and Railroad
- 2 Switzerland of America
- 3 Above the Clouds, Switchback
- 4 From Prospect Rock, Switchback and Mount Pisgah
- 5 The Narrows
- 6 Head of Susquehanna street
- 7 Mansion House
- 8 Residence of Hon. J. Leisenring
- 9 From Mount Pisgah, S. Switchback
- 10 Old Bastie, Switchback

- 11 From Mansion House, north
- 12 Burning Mines, Switchback
- 13 Episcopal Church
- 14 Mt. Jefferson Plane, Switchback
- 15 Broadway, looking east
- 16 From Canal Lock
- 17 From foot of Mt. Pisgah
- 18 Bird's-eye view
- 19 Bear Mountain
- 20 Mt. Pisgah Plane, Switchback
- 21 From Leisenring's residence
- 22 From Mountain Road
- 23 From Narrows and Prospect Rock
- 24 From Prospect Rock, north
- 25 The Court House and American Hotel
- 26 Lentz Trout Ponds
- 27 Packer's Corners
- 28 Station
- 29 Susquehanna street
- 30 Coal Chutes, Loading Boats
- 31 Scenes around the Breakers, Switchback
- 32 Lehigh Valley R. R. Station
- 33 Bird's-eye view
- 34 Broadway, W. from Court House and Mt. Pisgah
- 35 From Railroad
- 36 Falls
- 37 Views from the East
- 38 First Glimpse of Railroad Bridge
- 39 Flag Staff
- 40 Mansion House from Bear Mt.
- 41 From Lehigh Valley Railroad
- 42 Kittanning Gorge, above Mauch Chunk

*Glen Onoko.*

- 1 Terrace Falls
- 2 Onoko Falls
- 3 Cave Falls
- 4 Specter Cascade
- 5 Entrance, Specter Cascade, and Pool
- 6 Turnhole Bridge and Tunnel
- 7 Packer's Point
- 8 Hunter's Cave and Falls
- 9 Crystal Cascade
- 10 Dual Vista
- 11 Laurel Cascade
- 12 Chameleon Falls
- 13 Allentown Furnace
- 14 Allentown Jordan Bridge

*Easton.*

- 1 View on College Hill
- 2 View on the Delaware
- 3 From College Hill

*Wyoming Valley.*

- 1 Massacre Monument
- 2 Coal Breakers
- 3 Valley, From Prospect Rock
- 4 Valley, Baltimore Openings
- 5 Valley, Railway Cut
- 6 Wilkesharre, Wyoming Val. House
- 7 Wilkesharre Court House

*Lehigh Valley.*

- 1 Penn Haven Junction
- 2 Penn Haven Plains
- 3 Carbon Iron Works
- 4 View on Canal
- 5 Lehigh Gap Hotel
- 6 Early Morning in the Gap
- 7 Aqueduct in the Gap
- 8 Water Gap, south
- 9 Crown Point Gap

**Philadelphia.**

- 1 Independence Hall, full front
- 2 Independence Hall, rear view
- 3 Independence Hall, interior
- 4 The Old Liberty Bell
- 5 State House Row
- 6 Group of Churches, Broad and Arch sts
- 7 St. George's Hall
- 8 Ridgway Library, Broad and Christian sts
- 9 Grand Depot, Wanamakers
- 10 U. S. Mint
- 11 Cathedral
- 12 Blind Asylum
- 13 Academy of Fine Arts
- 14 Academy of Music
- 15 Merchants Exchange
- 16 Philadelphia Library
- 17 Armory of 1st Regiment
- 18 Union League Club House
- 19 Academy of Natural Sciences
- 20 Pennsylvania Hospital
- 21 Chestnut Street Opera House
- 22 German Hospital, front
- 23 " " rear
- 24 Spring Garden Water Works
- 25 Penna. R. R. Grain Elevator
- 26 University of Pennsylvania
- 27 Y. M. C. A. Building
- 28 Girard College
- 29 View North from Corinthian Ave. Reservoir
- 30 Eastern Penitentiary
- 31 Old Swedes Church
- 32 Old Swedes Church, The Pulpit
- 33 Old Swedes Church, Choir and Organ
- 34 City Hall, west entrance
- 35 " " south front
- 36 " " entrance
- 37 Rodef Shalom Synagogue, Presbyterian Church and Boys' High School
- 38 Horticultural Hall, Broad and Spruce sts
- 39 The Methodists Home
- 40 Northern Savings Fund Building, 6th and Spring Garden sts
- 41 Penna. R. R. Building, 4th and Walnut sts
- 42 Old Market St. Bridge
- 43 Naval Asylum
- 44 Women's Medical College
- 45 " " Hospital
- 46 Broad St. Station from City Hall
- 47 Broad St. Station from Filbert st

- 48 Broad St. Station from Masonic Temple
  - 49 Broad St. Station and Elevated R. R. from Switch Tower
  - 50 Panoramic View from Broad St. Station, north-west
  - 51 Panoramic View from Broad St. Station, west
  - 52 Panoramic View from Broad St. Station, west south
  - 53 Panoramic View from Broad St. Station, south-west
  - 54 Panoramic View from Broad St. Station, South
  - 55 Panoramic View from Broad St. Station, East
  - 56 Panoramic View from Broad St. Station, East North
  - 57 Panoramic View from Broad St. Station, North East
  - 58 Panoramic View from Broad St. Station, North East general
  - 59 Panoramic View from Broad St. Station, North
  - 60 Masonic Temple from Broad St. Station
  - 61 The Reynolds' Statue (Equestrian), Broad St. Station
  - 62 The Reynolds' Statue (Equestrian)
  - 63 Carpenters' Hall, Interior
  - 64 Roberts' Mill Germantown, built in 1640
  - 65 Old Mifflin Mansion, residence of Pennsylvania's first Governor
  - 66 Revolutionary House, Iron Sons of 1876
  - 67 Old Penn Mansion, Letitia Court
  - 68 Girard Bank
  - 69 Drexel's Bank, 5th and Chestnut sts
  - 70 Jewish Synagogue, Broad and Mt. Vernon
  - 71 Interior of Pullman Sleeping Car
  - 72 New Post Office
- Fairmount Park.**
- 1 Penn Mansion, Lansdowne entrance
  - 2 Zoological Garden, Girard Ave. entrance
  - 3 Fairmount Waterworks
  - 4 Fairmount Waterworks, general view
  - 5 Schuylkill Navy from West bank
  - 6 Down the Schuylkill from West bank
  - 7 Philadelphia from Callowhill St. Bridge
  - 8 On the Wissahickon
  - 9 A Choice View from the road, Wissahickon
  - 10 The Wissahickon Drive
  - 11 The Stone Bridge from the rocks
  - 12 The Stone Bridge from Wissahickon
  - 13 Valley Green
  - 14 Valley Green, near view
  - 15 Wissahickon (winter)
  - 16 Indian Rock, Wissahickon
- 17 Manayunk from its drive
  - 18 The River Drive at "Falls"
  - 19 Penn Mansion, Interior
  - 20 Artistic Vase
  - 21 Fountain Green
  - 22 Sweet Briar Mansion
  - 23 Solitude, near Sweet Briar Mansion
  - 24 Walk near Sweet Briar
  - 25 Old Girard Avenue Bridge
  - 26 Walk down the Fairmount Reservoir
  - 27 Sedgely
  - 28 Romantic Falls at Red Bridge, on the Wissahickon
  - 29 Old Rittenhouse Mansion on the Wissahickon
  - 30 Fountain in East Park
  - 31 Conservatory (Plants) Mrs. Setts
  - 32 The Wolf Group
  - 33 Thorp's Lane Bridge
  - 34 Entrance to Mt. Vernon Cemetery
  - 35 Memorial Hall, Fairmount Park
- Miscellaneous.**
- 1 Down the Ohio from Allegheny City, Pittsburgh
  - 2 In the Suburbs of Allegheny City
  - 3 Pittsburgh from Capitol Hill
  - 4 General View of the Ohio River near Pittsburgh
  - 5 Western Penitentiary, exterior
  - 6 Western Penitentiary, Interior, showing cells
  - 7 Fording the Juniata
  - 8 Washington's Headquarters at Valley Forge
  - 9 A Miner's Home
  - 10 Coal Regions
  - 11 Carbon Valley from Sharp Mountain, Pottsville
  - 12 Atkins' Furnaces, Pottsville
  - 13 Tumbling Run Dam, Pottsville
  - 14 Last Residence and First Church of Prince Gallitzen, Loretto
  - 15 Female Convent
  - 16 Prince Gallitzen's Tomb
  - 17 Cedarcroft, Bayard Taylor's Home, Kennett Square
  - 18 Birth-place of Bayard Taylor
  - 19 Wheatland, House of Buchanan, Lancaster
  - 20 Grave of President Buchanan, Lancaster
  - 21 Grave of Thaddeus Stevens, Lancaster
- White Mountains.**
- 1 Mount Washington
  - 2 Tip-Top House, Summit of Mount Washington
  - 3 Willey House
  - 4 Flume and Suspended Boulder, Franconia Notch
  - 5 The Basin, Franconia Notch
- 6 The Pool, Franconia Notch
  - 7 White Mountain Notch
  - 8 Crawford House
  - 9 Profile House
  - 10 Railroad up Mount Washington
  - 11 Railway
  - 12 Workmen Descending
  - 13 Tower
  - 14 Jacob's Ladder
  - 15 Mt. Washington in Winter
  - 16 Weather Bureau Station
- Rhode Island.—Newport.**
- 1 The Harbor
  - 2 The Beach
  - 3 Purgatory
  - 4 Cliffs
  - 5 Old Stone Mill
  - 6 Cottages
  - 7 Perry Statue
  - 8 Ida Lewis Lighthouse
  - 9 Old Wind-Mill
  - 10 Bathing Scene, Narragansett Pier
  - 11 Indian Rock, Narragansett Pier
  - 12 The Beach, Watch Hill
  - 13 Arcade, Providence
  - 14 Roger Williams' Monument
- Massachusetts.**
- 1 Wachusett Lake
  - 2 Plymouth Rock
  - 3 Old House at Dedham, 200 years old
  - 4 Barn, Baker's Estate, Wellesley
- Boston and Vicinity.**
- 1 Panorama of City
  - 2 City Hall
  - 3 Custom House
  - 4 Faneuil Hall
  - 5 Old State House
  - 6 New State House
  - 7 Old South Church
  - 8 Old North Church
  - 9 Trinity Church
  - 10 Masonic Temple
  - 11 Stone Chapel
  - 12 Art Museum
  - 13 Boston Museum
  - 14 Quincy Market
  - 15 Public Gardens
  - 16 Boston Common
  - 17 Washington Monument
  - 18 Esther "
  - 19 Soldiers' "
  - 20 Summer "
  - 21 Bunker Hill "
  - 22 Navy Yard
  - 23 Boston Harbor
  - 24 Shipping
  - 25 Dry Dock
  - 26 Italian Garden
  - 27 Mt. Auburn Cemetery
  - 28 Forest Hill
  - 29 Longfellow's Home, Cambridge
  - 30 Washington Elm, Cambridge
  - 31 Harvard College, Cambridge
  - 32 Battle Ground, Concord
  - 33 Statue, Minute Man
  - 34 Hawthorne's Old House
  - 35 Emerson's Residence

**Vermont.**

- 1 Burlington
- 2 St. Albans
- 3 Winooska Falls

**The Thousand Islands  
(St. Lawrence River.)**

- 1 Mt. Beulah, Westminster Park
- 2 Bonnie Castle and Crossmon Point
- 3 Alexandria Bay
- 4 Thousand Island House
- 5 Fishing Party, Fort Viven
- 6 Fishing Party, Anthony's Bay
- 7 Acadia
- 8 Westminster Park Landing
- 9 Observatory, Thousand Island House
- 10 Little Ina Island
- 11 Warner's Island
- 12 Ruins of Fort Carleton
- 13 Peel's Lock
- 14 Lister's Lighthouse
- 15 Old Windmill (once a fort)
- 16 Crossmon House
- 17 Sailing Yacht
- 18 Pic-Nic Party
- 19 Fisher's Landing
- 20 Anthony's Point
- 21 Ina Island
- 22 Meeting on the shore
- 23 Isle of Pines
- 24 Camping Out
- 25 Summerland

**Canada.**

- 1 Panorama of Montreal
- 2 Fortifications of Quebec
- 3 Custom House and River, St. Lawrence, Quebec
- 4 Falls of Montmorenci, near Quebec
- 5 Parliament Buildings, Ottawa
- 6 Canadian Cottage
- 7 " Farm House
- 8 " School House
- 9 " Calcehe
- 10 " Baker's Cart
- 11 " Milk Cart
- 12 Notre Dame Bell, Montreal (3t, 780 lbs.)
- 13 English Cathedral, Montreal
- 14 Hotel Dieu Hospital, Montreal
- 15 McGill College, Montreal
- 16 Victoria Bridge, "
- 17 Soldiers' and Sailors' Monument, Montreal
- 18 Bonsecours Market, Montreal
- 19 Grey Nunnery, Montreal
- 20 Parliament Buildings, Ottawa
- 21 Victoria Monument, Ottawa
- 22 Post Office, Ottawa
- 23 Governor's House, Ottawa
- 24 Battery, "
- 25 Rideau Canal, "
- 26 Chaudiere Falls, "
- 27 Harbor, Quebec
- 28 Point Levi, "
- 29 Dufferin Terrace, "
- 30 Old Parliament Buildings, Quebec

- 31 New Parliament Buildings, Quebec
- 32 Kent Gate, "
- 33 St. Louis Gate, "
- 34 Citadel, "
- 35 Martello Tower, "
- 36 Montcalm Market, "
- 37 New Jail, "
- 38 Skating Rink, "
- 39 Grand Battery, "
- 40 Wolf Monument, "
- 41 Montcalm Monument, Quebec
- 42 Where Montgomery Fell, Quebec
- 43 Natural Steps, Quebec
- 44 Montmorenci Falls, near Quebec

**Ohio—Cincinnati.**

- 1 The Levee
- 2 Steamers
- 3 Suspension Bridge
- 4 Tyler Davidson Fountain
- 5 Little Monument

**Illinois.**

- 1 Rock Island Barracks
- 2 Rock Island National Cemetery
- 3 Rock Island R. R. Bridge
- 4 Chicago, Panoramic View
- 5 Chicago, Harbor View
- 6 Times Office, Chicago
- 7 Tribune Office, "
- 8 Water Works, "
- 9 Lumber Exchange, "
- 10 Grain Elevator, "
- 11 Douglas Monument, "

**Chicago.**

- 1 Lincoln Statue, Lincoln Park
- 2 Skating, Lincoln Park
- 3 Grant Monument, Lincoln Park
- 4 Grant Monument, distant view
- 5 Schiller Monument, Lincoln Park
- 6 Ryerson Monument, Lincoln Park
- 7 Flower beds and fountain, Lincoln Park
- 8 Pyramid of flowers, Lincoln Park
- 9 Lincoln Park, name in flowers
- 10 Bear den
- 11 Lion den
- 12 Bird cage
- 13 Conservatory
- 14 Boathouse
- 15 Rotunda, Rookery building
- 16 Jackson street bridge
- 17 Wells street bridge
- 18 State street bridge
- 19 Rush street bridge.
- 20 Elevators from mouth of river
- 21 River from Rush street
- 22 La Salle street tunnel
- 23 Chicago base ball park
- 24 Jackson Park, name in flowers
- 25 River in Jackson Park
- 26 Iron bridge in Jackson Park
- 27 Stone bridge in Jackson Park
- 28 Boat house in Jackson Park
- 29 Pavilion, Jackson Park
- 30 Park phaeton house, Drexel boulevard
- 31 Drexel boulevard south of 39th street
- 32 Calendar in flowers, South Park
- 33 Pyramid of flowers, South Park
- 34 Sun Dial, South Park
- 35 Presidential race in flowers, South Park
- 36 Man in canoe in flowers, South Park
- 37 Flag (U. S.) in flowers, South Park
- 38 Ellis Park
- 39 Douglas Monument
- 40 Douglas Monument and Lake
- 41 Woodlawn Park
- 42 Groveland Park
- 43 Railroad tracks and Lake from Woodlawn Park
- 44 Conservatories at Humboldt Park
- 45 Summer house, Humboldt Park
- 46 Boat house, Humboldt Park
- 47 The lake in Humboldt Park
- 48 The lion in flowers, Humboldt Park
- 49 Flower beds, Humboldt Park
- 50 Pyramid in flowers, Humboldt Park
- 51 Conservatory at Douglas Park
- 52 Boat house and lake, Douglas Park
- 53 Boat house, Douglas Park
- 54 Pavilion of flowers, Douglas Park
- 55 Springs, Garfield Park
- 56 Boat house at Garfield Park
- 57 Boat house and lake, Garfield Park
- 58 County court house and jail
- 59 Custom house and postoffice
- 60 Rush Medical College
- 61 Cook County Hospital
- 62 Fountains at Jefferson Park
- 63 Summer house at Jefferson Park
- 64 Foot bridge, Jefferson Park
- 65 Stone bridge, Jefferson Park
- 66 Lake in Jefferson Park
- 67 Residence of Potter Palmer
- 68 Palmer House
- 69 Sherman House
- 70 Water Works Crib, 2 miles south from crib
- 71 Douglas Monument
- 72 Jefferson Park
- 73 S. W. Allerton's residence
- 74 Interior court house
- 75 Interior Exposition
- 76 Interior Immanuel Baptist Church
- 77 Refectory Lincoln Park
- 78 Union Stock Yards
- 79 Lake Front

- 80 Lake Front Exposition  
81 Perry H. Smith's residence  
82 Hotel Florence, Pullman  
83 Union Depot  
84 Oak Wood Cemetery  
85 Homoeopathic Medical College  
86 Aldine Square  
87 Calumet club house, Michigan ave. and 22d street  
88 Adams street bridge and Farwell Block  
89 Wilsons building, Lake ave. and Oakwood  
90 Pullman building, Michigan ave. and Adams st.  
91 Libby residence, Michigan ave. and 34th st.  
92 Douglas University  
93 Prairie ave. north from 22d st.  
94 College of Physicians, West side  
95 Rush Medical College  
96 Grannis Block fire  
97 Art Institute, Michigan ave. and Van Buren st.  
98 Van Buren st. east from Rock Island depot  
99 Adams st. east from State st.  
100 Jackson st. east from State  
101 Michigan ave. north from 31st st.  
102 Michigan ave. south from 32d st.  
103 River and shipping from Franklin st.  
104 Church of the Messiah, Michigan ave. and 23d st.  
105 Pullman's residence, Prairie ave. and 18th st.  
106 S. W. Allerton's residence, Prairie ave.  
107 Garfield Park, two bridges  
108 Garfield Park, groups in foreground  
109 Water street, east from Franklin  
110 Wells st. bridge and railroad station  
111 Tremont House  
112 Chicago & North-Western Depot  
113 On Drexel boulevard, central view  
114 River and shipping, Bridgeport  
115 North Side Water Works, east  
116 J. V. Farwell's residence, North side  
117 Lincoln Park, flower garden, north  
118 Lincoln Park, south fountain  
119 Jackson Park, hay making  
120 Lincoln Park, Lake Shore drive  
121 Court house, interior  
122 Grant Memorial, the funeral car  
123 First Regiment Armory, Jackson st.  
124 Columbia Theatre  
125 Cathedral, St. Paul and Peter  
126 Criminal court, North side  
127 Woman's Medical College  
128 Haven school, Wabash ave.  
129 Rush st. bridge  
130 Drexel boulevard mound  
131 Washington Park Club  
132 St. James Church, West Washington st.  
133 J. R. Walsh's residence, Calumet ave.  
134 J. B. Drake's residence, Calumet ave.  
135 Gen. John A. Logan, residence, Calumet ave.  
136 S. W. Allerton's residence, Prairie ave.  
137 J. B. Farwell, residence Lake Shore boulevard  
138 Potter Palmer, residence Lake Shore boulevard  
139 State st. north from Madison  
140 Marshall-Field retail store, State and Washington  
141 Washington st.  
142 State st. south from Randolph, Central Music Hall  
143 Randolph st. east from Clark  
144 Adams st. east from Clark  
145 Custom house, Clark and Jackson sts.  
146 State st. from Jackson  
147 Michigan ave. north from Congress  
148 Leland Hotel and Hotel Richelleu, Michigan ave.  
149 Art Institute and Studenbaker's  
150 River and shipping, Franklin st.  
151 Palmer House  
152 W. F. Storey's marble mansion  
153 Rush st. bridge  
154 Clark st. south from Randolph  
155 Refectory Douglas Park  
156 Michigan ave. south from 32d st.  
157 The lakes, Douglas Park  
158 Bear pits, Lincoln Park  
159 Madison st. east from Clark  
160 Clark st. north from Randolph  
161 New Rookery building  
162 Sun Dial, South Park  
163 Drexel Fountain and floral flag, South Park  
164 Floral Calendar, South Park  
165 Adams st. west from Exposition  
166 Adams st. west from bridge  
167 Adams st. east from Bristol Hotel  
168 Clark st. north from Grand Pacific  
169 Grand Pacific Hotel  
170 Lincoln monument  
171 Union League, Hotel Grace  
172 Court house  
173 Chicago river and shipping, west from Wells st.  
174 Wells st. bridge  
175 Grotto lake, Lincoln Park  
176 Artesian fountain, Lincoln Park  
177 Sea Lions, Lincoln Park  
178 Casino, Garfield Park  
179 Residence, Potter Palmer  
180 South Congregational Church, Drexel boulevard  
181 Washington Park, the lakes  
182 Leland Hotel and Hotel Richelleu  
183 River, east from Clark st. bridge  
184 Michigan ave. north from Congress st.  
185 Owens building, Dearborn and Adams sts.  
186 Storm on Lake Michigan

### Chicago Fire Views.

These views are made from negatives taken immediately after the Great Fire, showing the ruins of the City.

#### Street Views.

- 1 Looking east from Market st.
- 2 Market st., looking east from Fuller's
- 3 General View from Fuller's, corner Washington and Randolph sts.
- 4 South Side, looking southeast from Fuller's
- 5 Looking north from Court House
- 6 Looking east from Court House
- 7 East Entrance to Court House
- 8 Looking southeast from Court House
- 9 Looking south from Water Tower
- 10 Looking west from Water Tower
- 11 North Side, from Water Tower
- 12 Chicago Ave., from Water Tower
- 13 Water Works, from Tower
- 14 Water Tower
- 15 North Side, lake front
- 16 Lake front, looking north
- 17 Lake Shore and Breakwater
- 18 Lincoln Park
- 19 Lincoln Park and Lakeshore Drive
- 20 General View, Lincoln Park in the distance
- 21 Chicago Avenue, looking west
- 22 Pine st., looking north
- 23 North Branch
- 24 North Clark st.
- 25 North Side, from Clark st. Bridge
- 26 North State, from Kinzie st.
- 27 Looking south from the North Side
- 28 Wabash Avenue, looking west
- 29 Cor. Van Buren and Wabash Ave.
- 30 Cor. Wabash Avenue and Washington st.
- 31 Wabash Ave., from Congress Hall
- 32 Wabash Avenue, looking west

- 33 View from Congress Hall, looking west
- 34 Looking north from Congress Hall
- 35 Looking northwest from Congress Hall
- 36 Looking southeast from Randolph st. Bridge
- 37 Randolph st., looking northeast
- 38 Cor. Randolph and Clark sts.
- 39 Dearborn st., looking north
- 40 Looking northeast from Dearborn st.
- 41 Cor. Dearborn and Michigan sts.
- 42 Main Branch of River
- 43 South Branch of River
- 44 Water st., looking east
- 45 Cor. Lake and Clark, looking west
- 46 Monroe st., from Clark st.
- 47 Cor. La Salle and Washington
- 48 La Salle, from Madison
- 49 Adams st., looking west
- 50 Clark, from Adams, looking north
- 51 Clark, from Madison, looking west
- 52 Clark st. Bridge
- 53 Lake st., looking north
- 54 St. James Place, cor. Washington and State
- 55 Bookseller's Row
- 56 Rush st. Bridge
- 57 Jackson st.
- 58 Field & Leiter's, corner Washington and State
- 59 Michigan Avenue, looking north

*Fire Ruins of Churches.*

- 1 St. James Church, North Side
- 2 Robert Collyer's Church
- 3 New England Church, from Dearborn st.
- 4 Entrance to New England Church
- 5 Church of Holy Name, Dearborn st.
- 6 West Main Entrance to Methodist Church Block
- 7 Church on Michigan Ave.
- 8 Church on cor. Wabash and Van Buren
- 9 Church on Jackson st.

*Fire Ruins of Public Buildings.*

- 1 First National Bank, Washington and State st.
- 2 Republican Life Insurance Fire-proof Building
- 3 Interior Republican Life Ins. Fire-proof building.
- 4 Main entrance to Masonic Temple, Dearborn street.
- 5 Crosby's Opera House.
- 6 McVicker's Theater.
- 7 Merchant's Loan and Trust Bank.
- 8 Larned Block, cor. Washington and Clark.
- 9 Court House.
- 10 Court House and Reservoir.
- 11 Honore Block and Grand Pacific.

- 12 West Entrance to Grand Pacific.
- 13 Tremont House.
- 14 Sherman House and Fidelity Bank.
- 15 General View of Art Gallery.
- 16 St. Joseph's Priory, Chicago ave. and Rush st.
- 17 Freight House, Ill. Cent. R. R.
- 18 Ill. Cent. R. R. Depot.
- 19 Mich. So. R. R. Depot.
- 20 U. S. Express Office, cor. Clark and Lake sts.
- 21 Am. Express Office.
- 22 Rush Medical College.
- 23 Arcade Court.
- 24 Gilbert, Spencer & Hubbard's, cor. Fifth ave. and Water st.
- 25 Wheeler & Wilson's, Lake street.
- 26 Lyon & Healy.
- 27 Van Schaack, Stevenson & Reid.
- 28 Tribune Building.
- 29 Post Office.
- 30 Interior of Post Office.
- 31 Custom House.
- 32 Ogden House.
- 33 Ogden House, New England Church and Robert Collyer's Church.

*Miscellaneous.*

- 1 Wm. Kerfoot's Office, first building erected after the fire.
- 2 Court House Bell.
- 3 First Chicago Water W'ks after the fire.
- 4 Post Office Cat.
- 5 Soldiers In Camp, corner Carpenter and Washington.
- 6 Mrs. O'Leary's Barn, where the fire started.
- 7 Mrs. O'Leary's House.
- 8 Mrs. O'Leary's Cow.

**Wisconsin.**

*Kilbourne Dalles.*

- 1 Staud Rock.
- 2 Luncheon Hall.
- 3 Hornets' Nest.
- 4 Witches' Gulch.
- 5 Head of the Dalles.
- 6 Steamboat Rock.
- 7 Rock Glen.
- 8 Gates Glen.
- 9 Up the Dalles.
- 10 The Elbow.
- 11 Rafting on the Dalles.
- 12 Tower Rock.
- 13 Pine Bluff.
- 14 Lone Rock.
- 15 Sugar Bowl.
- 16 Inkstand Rock.

*Devil's Lake.*

- 17 East Cliff.
- 18 Tomahawk Rock.
- 19 Pine Cliff.
- 20 Split Rock.
- 21 Devil's Doorway.
- 22 Old Shady.
- 23 Echo Cliff.
- 24 Wonder Notch.
- 25 Thunder Cliff.
- 26 Turk's Head.
- 27 Grove at Kirkland.
- 28 Cleopatra's Needle.

- 29 The Tower.
- 30 Paffrey's Glen.
- 31 Pewitt's Nest.
- 32 Old Mill at Pewitt's Nest.

**Missouri.**

*St. Louis.*

- 1 Panorama, N. E.
- 2 Panorama, S. E.
- 3 The Levee.
- 4 Mississippi Steamers.
- 5 Saloon on Mississippi Steamer.
- 6 Washington Square.
- 7 Suspension Bridge.
- 8 Snag Boat.
- 9 City Hall.
- 10 Post Office.
- 11 Jail Interior.
- 12 Court House.
- 13 Masonic Temple.
- 14 Southern Hotel.
- 15 Lindel House.
- 16 Lafayette Park.
- 17 Oldest House.
- 18 Panorama, Kansas City.
- 19 Union Depot, "
- 20 Court House, "

**Nebraska.**

- 1 Panorama of Omaha.
- 2 Bridge, "
- 3 Union Pacific Depot Omaha.
- 4 Farnam street, Omaha.
- 5 Panorama of Lincoln.
- 6 Post Office, "
- 7 State Prison, "
- 8 Lancaster Jail, "
- 9 Sod House, "
- 10 Big Tree, Chief of the Forest, Milford.

**Grand Canon of the Arkansas.**

- 1 The Promontory at entrance of Canon.
- 2 The Great Wall, near the Gorge.
- 3 Approaching the Gorge.
- 4 " " "
- 5 " " "
- 6 The Royal Gorge from below.
- 7 The Royal Gorge, from below.
- 8 The Royal Gorge, from above, near view.
- 9 The Royal Gorge, from above, near view.
- 10 The Royal Gorge, from above, near view.
- 11 The Royal Gorge, from above, near view, the Bridge.
- 12 The Royal Gorge, from above, near view, the Bridge with Train.
- 13 The Royal Gorge, from above, distant.
- 14 Upper end of the Gorge.
- 15 Grape Creek Canon, near the Toll Gate.
- 16 Grape Creek Canon, near the Horseshoe.
- 17 Grape Creek Canon, the Temple.
- 18 Grape Creek Canon, near the Temple.

**Colorado and New Mexico.**

*A Full, Descriptive Lecture of Colorado and New Mexico can be furnished.*

- 1 Larimer street, Denver.
- 2 The Tabor Block, "
- 3 Lawrence street, "
- 4 Manitou and Pike's Peak, Col.
- 5 Manitou Soda Springs, Manitou.
- 6 Ute Pass, near Manitou.
- 7 Rainbow Falls, Ute Pass.
- 8 General View of Williams' Canon.
- 9 The Narrows, Williams' Canon.
- 10 Entrance to the Cave of the Winds, Williams' Canon.
- 11 Temple of Isis, Williams' Canon.
- 12 Cameron's Cone, from Temple of Isis.
- 13 The Toadstools, Garden of the Gods.
- 14 Buena Vista Drive, Garden of the Gods.
- 15 Balanced Rock, Garden of the Gods.
- 16 The Simploton, Garden of the Gods.
- 17 Siamese Twins, Garden of the Gods.
- 18 Pike's Peak from Siamese Twins, Garden of the Gods.
- 19 The Seal and Bear, Garden of the Gods.
- 20 Montezuma Spires, Garden of the Gods.
- 21 The Tower of Babel, Garden of the Gods.
- 22 Gateway, Garden of the Gods.
- 23 General View of Pike's Peak, Garden of the Gods.
- 24 Glen Eyrie, Gen. Palmer's residence.
- 25 The Tramp, Monument Park.
- 26 Vulcan's Anvil, Monument Park.
- 27 Dutch Wedding, Monument Park.
- 28 Dutch Parliament, Monument Park.
- 29 The Colonade, Monument Park.
- 30 The Flying Dutchman, Monument Park.
- 31 The Old Maid, Monument Park.
- 32 Vulcan's Workshop, Monument Park.
- 33 Three Lower Falls, Cheyenne Canon.
- 34 Seven Falls, in Cheyenne Canon.
- 35 Grand Canon of the Arkansas, west.
- 36 Grand Canon of the Arkansas, east.
- 37 Royal Gorge, Grand Canon of the Arkansas, west.
- 38 Suspended Bridge, Royal Gorge, west.
- 39 Suspended Bridge, Royal Gorge, east.
- 40 Royal Gorge, east.

- 41 Main street, Buena Vista Col.
- 42 Mount Princeton, from Buena Vista.
- 43 Upper Twin Lake, Colorado.
- 44 Lower Twin Lake, Colorado.
- 45 Snowy Range, near Leadville.
- 46 Leadville, from Carbonate Hill.
- 47 California Gulch and Leadville.
- 48 Mount Massive and Leadville, from Capitol Hill.
- 49 General View of Leadville.
- 50 Leadville, from Capitol Hill.
- 51 Fryer Hill, Leadville.
- 52 The Iron Mine, on Breece Hill, Leadville.
- 53 Main street, Leadville.
- 54 Mount of the Holy Cross.
- 55 La Veta Pass and Dump Mountain.
- 56 Sierra Blanca, from near Fort Garland.
- 57 Embudo, Comanche Canon New Mexico.
- 58 The Old Mill at Chamita.
- 59 Passengers Crossing the River on Indians.
- 60 Pueblo, San Juan, from the church.
- 61 Church de Pueblo, San Juan.
- 62 Interior Church de Pueblo San Juan.
- 63 North Plaza, showing church.
- 64 General View, showing church in the distance.
- 65 Pueblo, San Juan, east.
- 66 Husking Corn, Pueblo.
- 67 Indian Boys on Burros.
- 68 Carretta, Pueblo, San Juan.
- 69 Stage for Santa Fe, at Espanola.
- 70 Old church at Santa Cruz.
- 71 General View of Santa Cruz.
- 72 Mexican Houses on the Loma, Santa Fe.
- 73 Mexican Adobe House on the Loma, Santa Fe.
- 74 Santa Fe, from Old Fort Marcy, west.
- 75 Santa Fe, from Old Fort Marcy, south.
- 76 The Palace at Santa Fe.
- 77 The Plaza and Palace, Santa Fe.
- 78 Military Headquarters, Santa Fe.
- 79 Santa Gaudaloupe Chapel Santa Fe.
- 80 Santa Gaudaloupe Chapel Interior.
- 81 Das Cargos of Wood on Burros, Santa Fe.
- 82 Burros Loaded with Wood.
- 83 San Francisco st., Santa Fe.
- 84 Chapel and Convent of Loretta, Santa Fe.
- 85 Shelby st., Santa Fe, N.M.
- 86 The Oldest House in Santa Fe.
- 87 Church of San Miguel, Santa Fe.
- 88 Church of San Miguel, Interior.
- 89 Church of the Brothers' College, Santa Fe.
- 90 Panorama of Santa Fe, from college, north.
- 91 Panorama of Santa Fe, from college, northwest.
- 92 Panorama of Santa Fe, from college, west.
- 93 Panorama of Santa Fe, from college, southwest.
- 94 Main st., Albuquerque, New Mexico.
- 95 General View of Albuquerque, New Mexico.
- 96 Old Mexican House, Albuquerque, New Mexico.
- 97 Plaza in Mexican House Albuquerque.
- 98 Cathedral of Ferdinand, Du Wari.
- 99 Santiago st., Albuquerque.
- 100 The Plaza, Albuquerque.
- 101 Indian Girls with Tinajas, Isleta, New Mexico.
- 102 The Estufa at Isleta.
- 103 Family Group at Isleta.
- 104 View of Plaza at Isleta.
- 105 Indian Group and Home, Isleta.
- 106 General View of Isleta.
- 107 Mud Roofs, Isleta.
- 108 Indian Home and El Horno, Isleta.
- 109 Indian Mother and Babe.
- 110 The Old church at Isleta.
- 111 General View of Isleta, south.
- 112 General View of Isleta, northeast.

**Garden of the Gods.**

- 1 The Gateway.
- 2 " " and Pike's Peak.
- 3 The Gateway and Pike's Peak.
- 4 The Gateway and Pike's Peak.
- 5 The Gateway and Cameron's Cone.
- 6 The Portals of the Gateway.
- 7 The Tower of Babel.
- 8 " " "
- 9 The Cathedral Spires.
- 10 The Seal and Bear.
- 11 The Siamese Twins.
- 12 Pike's Peak from the Twins.
- 13 Balance Rock.
- 14 Buena Vista Drive.
- 15 Glen Eyrie, the Major Dome.
- 16 Glen Eyrie, Echo Rocks.
- 17 Glen Eyrie, Echo Tower.
- 18 Glen Eyrie, Among the Rocks.
- 19 Monument Park, Ute Medicine Monument.
- 20 Monument Park, Ute Medicine Monument.
- 21 Monument Park, The Quakers.
- 22 Monument Park, The Quakers.
- 23 Monument Park.
- 24 Monument Park, Vulcan's Anvil.
- 25 Monument Park, Vulcan's Anvil.
- 26 Monument Park, Vulcan's Anvil.



- 27 Castle Rocks near the Divide.
- 28 Castle Rocks, near the Divide.
- 29 Natural Arch on the Divide.
- 30 Perry Park, (Pleasant Park) Profile Rocks.
- 31 Perry Park, The Pulpit.
- 32 " " The Twins.
- 33 " " Punch and Judy.
- 34 " " The Alligator.
- 35 " " The Turtle.
- 36 " " The Liberty Cap.
- 37 Perry Park, Under the Rocks.
- 38 Perry Pk, Leaning Rocks.
- 39 " " Gateway, Diana's Temple.
- 40 Perry Park, Among the Bluffs.
- 41 Perry Park, Among the Bluffs.
- 42 Perry Park, Among the Bluffs.
- 43 Perry Park, The Valley of Bagdad.
- 44 Perry Park, The Valley of Bagdad.
- 45 Perry Park, The Valley of Bagdad.
- 46 Rocks near Platte Canon.

#### Utah.

- 1 Sphinx Boulder.
- 2 Ogden.
- 3 Wasatch Mts.
- 4 Kanab Canon.
- 5 Rio Virgin Canon.

#### Salt Lake City.

- 6 Panorama of City and Wasatch Mountains.
- 7 Brigham street.
- 8 Brigham Young's House.
- 9 " " Grave.
- 10 The Temple, unfinished.
- 11 Postoffice.
- 12 The Tabernacle, exterior.
- 13 View of City, with Tabernacle and Temple.
- 14 Desert Store.

#### Wyoming.

- 1 Bad Lands.
- 2 Sandstone Bluff.
- 3 Castellated Rock.
- 4 Green River.
- 5 Cheyenne.
- 6 Guard House, Ft. Robinson, Cheyenne.

#### Yellowstone Park.

- 1 Mud Puffs, Lower Fire Hole Basin.
- 2 Geyser Crater.
- 3 Old Faithful in Eruption.
- 4 Crater of Old Faithful.
- 5 Crater of Beehive Geyser.
- 6 Giant Geyser, Fire Hole River.
- 7 Crater of the Grand Geyser.
- 8 Crater of the Grotto Geyser.
- 9 The Castle in Eruption.
- 10 Crater of the Castle and Hot Spring Basins.
- 11 Hot Spring Basins.
- 12 Lower Basins, Soda Spr'gs Gardner's River.

- 13 Mammoth Hot Springs of Gardner's River.
- 14 Cap of Liberty.
- 15 Grand Canon of the Yellowstone.
- 16 Upper Falls of the Yellowstone.
- 17 Tower Fall.
- 18 Column Rocks.
- 19 Hayden's Peak, or the Great Teton.
- 20 Fallsides of the West Gallatin.
- 21 Rocks near Platte Canon.
- 22 Monument Park.
- 23 Gilbert's Park, Uintah Mountains.
- 24 Beaver Dams on Henry's Fork.
- 25 Independence Rock.
- 26 Shoshone Village in the Wind River Mountains.
- 27 War Chief's Tent.

#### Mammoth Hot Springs.

- 28 Main Terrace.
- 29 Top of Main Terrace.
- 30 " " " "
- 31 Spring Formation.
- 32 " " " "

#### Upper Geyser Basin.

- 33 Lone Star Geyser.
- 34 Cone of Lone Star Geyser.
- 35 Crater of Splendid.
- 36 Riverside Geyser in Eruption.
- 37 Riverside Geyser.
- 38 Grotto Geyser.
- 39 " " " "
- 40 Splendid, Comet, and Daisy Geysers.
- 41 Castle Geyser, Side View.
- 42 " " " " Top View.
- 43 Curious Rock Forms.
- 44 A Landscape.
- 45 Panorama of Geysers.
- 46 " " " "
- 47 " " " " Close View.
- 48 A Pool.
- 49 " " " "
- 50 Pools.
- 51 Giant Geyser.
- 52 Cone of Giant Geyser, Close view.

#### Middle Geyser Basin.

- 53 Specimen Lake.
- 54 Extinct Crater.
- 55 The Boiling Paint-Pot.

#### Lower Geyser Basin.

- 56 Minute Geyser.
- 57 Panorama, from Hell's Half-Acre.
- 58 Panorama, from Hell's Half-Acre.

#### Grand Canon of the Yellowstone.

- 59 Grand Canon, Looking Down.
- 60 Grand Canon, Looking Up.
- 61 The Canon, near Lower Falls.
- 62 Walls of the Canon, Looking Down.
- 63 Inspiration Point.
- 64 The Rapids, above the Falls.
- 65 The River, above the Falls.
- 66 Heart of Forest, near the Canon.

- 67 Spotted Tail, Sioux Chief.
- 68 Minerva Terrace—Mammoth Hot Springs.
- 69 Grand Canon of the Yellowstone River.
- 70 Crater of the Giantess Geyser.
- 71 East Entrance of Golden Gate.
- 72 Grand Canon and Great Falls.
- 73 Great Falls of the Yellowstone, 360 feet.
- 74 Liberty Cap and National Hotel.
- 75 Pulpit Terrace—Mammoth Hot Springs.
- 76 Grotto Geyser, Cone.
- 77 Obsidian Cliff.
- 78 Castle Geyser Cone.
- 79 Geyser Hill—Upper Basin.
- 80 Old Faithful Geyser.
- 81 Hell's Half Acre.
- 82 Riverside Geyser.
- 83 " " " " In Eruption.
- 84 Cone, Giant Geyser—Upper Great Basin.
- 85 Cone, Beehive Geyser—Upper Great Basin.
- 86 Cone, Lone Star Geyser—Upper Great Basin.
- 87 Mammoth Hot Springs.
- 88 Upper Falls of Yellowstone, distant.
- 89 Gibbon Falls, 80 feet high.
- 90 Tower Falls, 149 feet high.
- 91 Grotto Geyser in Action.
- 92 Giant " Cone.
- 93 " " " " In Action.
- 94 " " " " " "
- 95 Crater of Oblong Geyser.
- 96 Waiting for the Splendid.
- 97 Splendid Geyser in Action.
- 98 Saw Geyser in Action.
- 99 Motor " " "
- 100 Grand " " "
- 101 Turban " " Crater of Grand.
- 102 Spasmodic Geyser in Action.
- 103 Saw Mill Geyser in Action.
- 104 Upper Basin from Saw Mill Bridge.
- 105 Castle Geyser Cone.
- 106 Devil's Well and Castle Cone.
- 107 Boiling Spring near the Castle.
- 108 Castle Geyser in Action.
- 109 " " " " " "
- 110 Castle and Bee Hive in Action.
- 111 Castle, Bee Hive and Old Faithful in Action.
- 112 Geyser Hill from the Hotel.
- 113 Upper Basin from Geyser Hill.
- 114 Upper Basin Hotel from Bee Hive.
- 115 Bee Hive Geyser in Action.
- 116 " " " " and Faithful. (Composite.)
- 117 Giantess Geyser in Action.
- 118 Crater of the Giantess.
- 119 Lion Geyser in Action.
- 120 Chinaman Geyser in Action.
- 121 Lone Star Geyser in Action.
- 122 Lone Star Geyser Cone.
- 123 Crater of Old Faithful.
- 124 Formation of Old Faithful.

- |  |   |   |
|--|---|---|
| 125 Old Faithful Geyser in Action.               | 173 Cinnabar Mountain, Devil's Slide.         | 220 Minerva Terrace, Hotel and Valley.    |
| 126 Old Faithful Geyser in Action.               | 174 Liberty Cap, National Hotel and Valley.   | 221 Minerva Terrace, Hotel and Valley.    |
| 127 Old Faithful Geyser in Action.               | 175 Minerva Terrace, Mammoth Hot Springs.     | 222 Minerva Terrace, Mammoth Hot Springs. |
| 128 Old Faithful Geyser in Action.               | 176 Minerva Terrace, Mammoth Hot Springs.     | 223 Minerva Terrace, Mammoth Hot Springs. |
| 129 Old Faithful Geyser in Action.               | 177 Pulpit Terrace, Mammoth Hot Springs.      | 224 Minerva Terrace, Mammoth Hot Springs. |
| 130 Old Faithful Geyser in Action.               | 178 Pulpit Terrace and Bunsen Peak.           | 225 Minerva Terrace, Mammoth Hot Springs. |
| 131 Old Faithful's Last Efforts                  | 179 Gardner Canyon, Electric Peak and Valley. | 226 Minerva Terrace, Mammoth Hot Springs. |
| 132 Yellowstone Lake, Mt. Sheridan.              | 180 Gibbon Falls, (84 feet).                  | 227 Mound Terrace, Mammoth Hot Springs.   |
| 133 Hayden Valley—between Lake and Falls.        | 181 Hell's Half Acre, Fire Hole River.        | 228 Mound Terrace and Valley              |
| 134 Sulphur Mountain.                            | 182 Hell's Half Acre, Prismatic Spring.       | 229 Cleopatra's Terrace.                  |
| 135 Boiling Spring, Sulphur Mountain.            | 183 Grotto Geyser Cone.                       | 230 Jupiter's Terrace.                    |
| 136 Grand Canon Hotel.                           | 184 Giant Geyser Cone.                        | 231 " " "                                 |
| 137 Upper Falls of the Yellowstone.              | 185 Castle Geyser Cone.                       | 232 Cupid's Cave, near view.              |
| 138 Rapids above the Upper Falls.                | 186 Lone Star Geyser Cone.                    | 233 " " "                                 |
| 139 Upper Falls from the Trail.                  | 187 Old Faithful Geyser in Action.            | 234 Pulpit Terrace " "                    |
| 140 Tourists Viewing the Grand Canyon.           | 188 Old Faithful Geyser in Action.            | 235 " " " and Bunsen Peak.                |
| 141 Grand Canyon from Grand Point.               | 189 Old Faithful Geyser in Action.            | 236 East Entrance to Golden Gate.         |
| 142 Grand Canyon from the Brink.                 | 190 Lone Star Geyser in Action.               | 237 Golden Gate and Bridge upright.       |
| 143 Grand Canyon from the Brink.                 | 191 Lone Star Geyser in Action.               | 238 Golden Gate and Bridge, oblong.       |
| 144 Grand Canyon from the Brink. (Upright).      | 192 Splendid Geyser in Action, with Rainbow.  | 239 Golden Gate and Kingman's Pass.       |
| 145 Grand Canyon from Point Lookout.             | 193 Yellowstone Lake, Mt. Sheridan.           | 240 West Entrance to Golden Gate.         |
| 146 Grand Canyon from Point Lookout. (Upright.). | 194 Yellowstone Lake, East Shore.             | 241 Bunsen's Peak.                        |
| 147 Grand Canyon from Inspiration Point.         | 195 Hayden Valley, between Lake and Falls.    | 242 Willow Park.                          |
| 148 Grand Canyon from Inspiration Point.         | 196 Great Falls, 360 ft. from below.          | 243 Obsidian Cliff.                       |
| 149 Down the Canyon from Inspiration Point.      | 197 Great Falls, 360 ft. from above.          | 244 Norris Geyser Basin.                  |
| 150 Inspiration Point.                           | 198 Grand Canyon and Falls.                   | 245 Mud Geyser, Norris Basin              |
| 151 Grand Canyon from Artists' Point.            | 199 Grand Canyon, looking east.               | 246 Minute Geyser, Norris Basin.          |
| 152 Great Falls from Artists' Point.             | 200 Tower Falls, 110 ft.                      | 247 Minute Geyser, Norris Basin.          |
| 153 Grand Canyon and Great Falls.                | 201 Wall Canon, or Basaltic Cliffs.           | 248 Monument Geyser Basin.                |
| 154 Point Lookout and Glimpse of Falls.          | 202 Mound Terrace, Mammoth Hot Springs.       | 249 Boiling Spring, Gibbon Canon.         |
| 155 Point Lookout and Glimpse of Falls.          | 203 Minerva Terrace, North Side.              | 250 Gibbon Falls, 84 feet.                |
| 156 Glimpse of the Great Falls                   | 204 Golden Gate and Pillar.                   | 251 Virginia Cascades.                    |
| 157 Great Falls from Red Rock.                   | 205 Golden Gate.                              | 252 " " "                                 |
| 158 Great Falls from Red Rock.                   | 206 Rapids above Upper Falls                  | 253 The Paint Pots.                       |
| 159 Great Falls from Red Rock.                   | 207 Upper Falls from the Trail.               | 254 " " "                                 |
| 160 Great Falls from Red Rock.                   | 208 Grand Canyon from the Brink.              | 255 The Fountain Geyser in Action.        |
| 161 Great Falls, near view.                      | 209 Great Falls from Red Rock.                | 256 The Fountain Geyser in Action.        |
| 162 Great Falls. Instantaneous.                  | 210 Great Falls of the Yellowstone.           | 257 Jet Geyser, Fountain Basin.           |
| 163 Great Falls, from Below.                     | 211 Great Falls of the Yellowstone.           | 258 Hell's Half Acre.                     |
| 164 " " " "                                      | 212 Hotel, Mammoth Hot Springs.               | 259 Hell's Half Acre and Outlet.          |
| 165 " " " "                                      | 213 Hotel and Stages, Mammoth Hot Springs.    | 260 Hell's Half Acre and River.           |
| 166 Tower Falls, from Above.                     | 214 National Park Studio.                     | 261 Hell's Half Acre from the Road.       |
| 167 " " " " and Canyon.                          | 215 Liberty Cap, Hotel and Valley.            | 262 Prismatic Lake.                       |
| 168 The Three Tetons and Snake River.            | 216 Hymen's Terrace, Hotel and Valley.        | 263 Biscuit Basin, Sapphire Pool.         |
| 169 The Grand Teton.                             | 217 Minerva Terrace, Hotel and Valley.        | 264 Soda Geyser in Action.                |
| 170 A Glimpse of the Tetons.                     | 218 Minerva Terrace, Hotel and Valley.        | 265 Sea Shell Geyser.                     |
| 171 Cinnabar Mountain, Devil's Slide.            | 219 Minerva Terrace, Hotel and Valley.        | 266 Crater of the Pearl Geyser            |
| 172 Camp of U. S. Geological Survey.             |   | 267 Artemesia Spring.                     |
|  |   | 268 Morning Glory Spring.                 |
|  |   | 269 The Punch Bowl.                       |
|  |   | 270 Specimen Lake.                        |
|  |   | 271 The Beach Spring                      |
|  |   | 272 Riverside Geyser in Action.           |
|  |   | 273 Riverside Geyser and Bridge.          |
|  |   | 274 Grotto Geyser Cone.                   |
|  |   | 275 Hot Spring Terrace and Hotel.         |

- 276 Formation at Mammoth Springs.
- 277 Hymen's Terrace and Hotel.
- 278 The Coating Terraces.
- 279 Hot Spring Terrace and Devil's Thumb.
- 280 Hot Spring Terrace and Liberty Cap.
- 281 Liberty Cap, Extinct Geyser Cone.
- 282 Devil's Thumb, Soda Deposit.
- 283 Chinese Laundry, Mammoth Springs.
- 284 South Terrace, Mammoth Springs.
- 285 Pulpit Terrace, Mammoth Springs.
- 286 South Hot Spring Basin.
- 287 McCartney's Cave, near Mammoth Springs.
- 288 Minerva Terrace, Mammoth Springs.
- 289 Pulpit Terrace, Mammoth Springs.
- 290 Pulpit Terrace, Mammoth Springs.
- 291 Rath Terrace, Mammoth Springs.
- 292 Formation, Mammoth Springs.
- 293 Formation, Mammoth Springs.
- 294 Formation, Mammoth Springs.
- 295 Rath Terrace and Spring.
- 296 Minerva Terrace, west side.
- 297 Formation, Mammoth Springs.
- 298 Bathing Pools, Mammoth Springs.
- 299 Bathing Pools, Mammoth Springs.
- 300 Bathing Pools, Mammoth Springs.
- 301 Minerva Terrace, East side.
- 302 The Pioneer Hotel, Mammoth Springs.
- 303 Cinnabar Mountain, Devil's Side.
- 304 Mammoth Orange, Active Geyser.
- 305 Mammoth Orange, Active Geyser.
- 306 Stalactic Cave.
- 307 Cleopatra's Bowl.
- 308 " " "
- 309 Minerva Terrace, Mammoth Springs.
- 310 Minerva Terrace, Mammoth Springs.
- 311 Cleopatra's Terrace, west side.
- 312 Cleopatra's Terrace, east side.
- 313 Bath Lake, Mammoth Springs.
- 314 Bath Lake, Mammoth Springs.
- 315 Interior Mammoth Cave, north end.
- 316 Interior Mammoth Cave, south end.
- 317 White Elephant Terrace.
- 318 " " "
- 319 Narrow Gauge Terrace.
- 320 Teller Terrace and Bunsen Peak.
- 321 The Cleveland Terrace.
- 322 Kingman Pass, West Gardner.
- 323 Blackstone Bend, West Gardner.
- 324 Golden Gate and Pillar, West Gardner.
- 325 The Falls of West Gardner.
- 326 The Falls of West Gardner.
- 327 Cathedral Rock, Bunsen Peak.
- 328 Among the Limestone Hoodoos.
- 329 Among the Limestone Hoodoos.
- 330 Among the Limestone Hoodoos.
- 331 Among the Limestone Hoodoos.
- 332 Among the Limestone Hoodoos.
- 333 Among the Limestone Hoodoos.
- 334 Snow Cave, Limestone Hoodoos.
- 335 Cinnabar Mountain, from the railroad.
- 336 National Hotel, Mammoth Springs.
- 337 Lower Terrace, Minerva Spring.
- 338 Summit of Minerva Spring.
- 339 The Edge of Minerva Spring.
- 340 Spoutling Spring, Diana's Terrace.
- 341 Jupiter's Terrace, Mammoth Springs.
- 342 Cupids Cave, Mammoth Springs.
- 343 Cleopatra's Bowl, Mammoth Springs.
- 344 Obsidian Cliff, or Glass Mountain.
- 345 Obsidian Cliff, from the Trail.
- 346 Obsidian Cliff, from the south.
- 347 Beaver Lake, from Obsidian Cliff.
- 348 Lone Tree Rock, Gibbon Canon.
- 349 Lone Tree Rock, Gibbon Canon.
- 350 Upper Ford of the Gibbon.
- 351 Gibbon Boiling Spring.
- 352 Lower Ford of the Gibbon.
- 353 Forging the Gibbon River.
- 354 Cascades of the Gibbon.
- 355 Cascades of the Gibbon.
- 356 Falls of the Gibbon.
- 357 Falls of the Gibbon.
- 358 Norris Geyser Basin, from the east.
- 359 Norris Geyser Basin, from the north.
- 360 The Minute Geyser in Action, Norris Basin.
- 361 The Minute Geyser in Action, Norris Basin.
- 362 Boiling Spring, Norris Basin.
- 363 Marshall's Place, Forks of Fire Hole.
- 364 Crater of the Fountain Geyser.
- 365 The Paint Pot, Instantaneous.
- 366 The Paint Pot, Lower Geyser Basin.
- 367 Hell's Half Acre, Fire Hole River.
- 368 Hell's Half Acre, from the south.
- 369 Grotto Geyser Cone.
- 370 Grotto Geyser in Action.
- 371 Grotto Geyser in Action.
- 372 Grotto Geyser and Formation.
- 373 Giant Geyser Cone.
- 374 Giant Geyser Cone, boiling full.
- 375 Giant Geyser Indicator.
- 376 Looking West from Geyser Hill.
- 377 A Glimpse of the Geyser Basin.
- 378 Specimen Lake, Upper Basin.
- 379 Riverside Geyser, Fire Hole River.
- 380 A Geyser immediately after Eruption.
- 381 The Upper Geyser Basin, a Geyser at Work.
- 382 The Upper Geyser Basin from the Castle.
- 383 The Splendid Geyser's Indicator.
- 384 The Splendid Geyser in Action.
- 385 The Splendid Geyser in Action.
- 386 The Splendid Geyser, Last Effort.
- 387 The Castle's Formation.
- 388 Bee Hive Cone, Castle in Action.
- 389 The Castle Geyser Cone.
- 390 The Castle Geyser in Action.
- 391 The Bee Hive Geyser in Action.
- 392 The Bee Hive Geyser in Action.
- 393 The Bee Hive Geyser in Action.
- 394 The Comet Geyser in Action.
- 395 The Cub Geyser in Action.
- 396 The Giantess Boiling Spring.
- 397 The Tyrtian Boiling Spring.
- 398 The Ingersoll Boiling Spring.
- 399 The Punch Bowl.
- 400 The Great Blue Spring.
- 401 The Iron Spring Creek Geyser.
- 402 The Black Sand Basin.
- 403 Old Faithful's Formation.
- 404 The Crater of Old Faithful.
- 405 Old Faithful Geyser in Action.
- 406 Old Faithful Geyser in Action.
- 407 Old Faithful Geyser in Action.
- 408 Old Faithful Geyser in Action.
- 409 Old Faithful Geyser in Action.
- 410 Old Faithful Geyser in Action.
- 411 Old Faithful Geyser in Action.
- 412 Old Faithful Geyser in Action.
- 413 Old Faithful Geyser in Action.
- 414 Improvement Co.'s Quarters, Upper Basin.

- |  |   |   |
|--|---|---|
| 415 The Lone Star Geyser Cone                  | 458 Grand Canon of the Yellowstone          | 504 Grand Canon from the Brink                          |
| 416 The Lone Star Geyser Cone                  | 459 Grand Canon of the Yellowstone          | 505 Our Artist found for the Canon                      |
| 417 The Lone Star Geyser in Action             | 460 Grand Canon and Great Falls             | 506 Glimpse of the Great Falls                          |
| 418 The Lone Star Geyser Formation             | 461 Grand Canon and Geyser at Bottom        | 507 Great Falls of the Yellowstone                      |
| 419 Keppler's Cascades, Fire Hole River        | 462 Grand Canon and Point Lookout           | 508 East Entrance to Golden Gate                        |
| 420 Keppler's Cascades, from below             | 463 Grand Canon and Eagle Nest              | 509 Golden Gate and Bridge                              |
| 421 A Glimpse of Keppler's Cascades            | 464 Grand Canon from Point Lookout          | 510 Golden Gate and Bridge                              |
| 422 The Natural Bridge                         | 465 Lower Canon of the Yellowstone          | 511 West Entrance to Golden Gate                        |
| 423 The Natural Bridge, from below             | 466 Wall Canon of the Yellowstone           | <i>Miscellaneous Views in the Vicinity of the Park.</i> |
| 424 The Natural Bridge, from above             | 467 Wall Canon of the Yellowstone           | 512 Our Pack Pony and Outfit                            |
| 425 Camping on Yellowstone Lake                | 468 Tower Creek Canon and Falls             | 513 Pack Mules of the Mountains                         |
| 426 Yellowstone Salmon Trout                   | 469 Tower Falls from below                  | 514 The Snowy Range                                     |
| 427 Camping Point, Yellowstone Lake            | 470 A Glimpse at Tower Falls                | 515 Mount Pauline, Snowy Range                          |
| 428 Trout Bay, Yellowstone Lake                | 471 Tower Falls, from above                 | 516 Bald Mountain Range                                 |
| 429 Petrified Indian, Yellowstone Lake         | 472 Basaltic Cliff and Canon                | 517 Yankee Jim's Toll Gate                              |
| 430 Moonlight on Yellowstone Lake              | 473 Barronett's Bridge, Yellowstone River   | 518 The Second Canon of the Yellowstone                 |
| 431 Mud Geyser, Sulphur Pool                   | 474 The Yellowstone above Specimen Mountain | 519 The Second Canon of the Yellowstone                 |
| 432 Hot Spring Cave, near Mud Geysers          | 475 The Petrified Trees near Yancey's       | 520 The Second Canon of the Yellowstone                 |
| 433 Yellowstone Valley between Lake and Falls  | 476 Soda Butte                              | 521 Republic Mountain and Cook City                     |
| 434 Yellowstone Valley, between Lake and Falls | 477 Soda Butte Spring and Valley            | 522 Grand Mountain, Soda Butte Valley                   |
| 435 Sulphur Mountain and Valley                | 478 Up the Valley from Soda Butte           | 523 Round Prairie Hotel, Soda Butte Valley              |
| 436 A Mountain of Brimstone                    | 479 A Glimpse of East Gardner Falls         | 524 Entrance to Republic Mine                           |
| 437 Yellowstone River above the Falls          | 480 The Glen, above Gardner Falls           | 525 The Cahin, Republic Mine                            |
| 438 The Rapids above the Upper Falls           | 481 Park Valley, Mammoth Springs            | 526 At the Shaft, Republic Mine                         |
| 439 The Upper Falls from below                 | 482 Mound Terrace, Mammoth Springs          | 527 Lower Canon of the Yellowstone                      |
| 440 The Upper Falls, from the Trail            | 483 Cleopatra Terrace, Mammoth Springs      | 528 Mammoth Hot Springs, general view                   |
| 441 A Glimpse of the Upper Falls               | 484 Fairy Grotto, Mammoth Springs           | 529 Mammoth Hot Springs, Pulpit Terraces                |
| 442 Crystal Falls, Cascade Creek               | 485 The Edge of Cleopatra's Terrace         | 530 Mammoth Hot Springs, Pulpit Terraces                |
| 443 The Bridge over Grotto Pool                | 486 Statue at Jupiter's Terrace             | 531 Mammoth Hot Springs, Terraces                       |
| 444 Crystal Falls from Below                   | 487 Golden Gate from the West               | 532 Mammoth Hot Springs, Summit Basins                  |
| 445 Great Falls of the Yellowstone, 360 feet   | 488 Golden Gate and Bridge                  | 533 Mammoth Hot Springs, Springs on the Summit          |
| 446 Great Falls of the Yellowstone, 360 feet   | 489 Giant Geyser, Bryant Profile            | 534 Mammoth Hot Springs, the Hotel                      |
| 447 Great Falls of the Yellowstone, 360 feet   | 490 Giant Geyser in Action                  | 535 Mammoth Hot Springs, the Liberty Cap                |
| 448 Great Falls of the Yellowstone, 360 feet   | 491 Giant and Grotto Geysers in Action      | 536 Mammoth Hot Springs, the Pulpit                     |
| 449 Grand Canon of the Yellowstone             | 492 Hot Spring Cone, Yellowstone Lake       | 537 Mammoth Hot Springs, Diana's Bath                   |
| 450 Grand Canon of the Yellowstone             | 493 Fishing at Hot Spring Cone              | 538 Mammoth Hot Springs, Coating Specimens              |
| 451 Grand Canon of the Yellowstone             | 494 Stages leaving Mammoth Hotel            | 539 Gardiner Falls                                      |
| 452 Grand Canon of the Yellowstone             | 495 Hot Springs from Capitol Hill           | 540 Tower Falls   |
| 453 Grand Canon of the Yellowstone             | 496 Hotel Norris in Winter                  | 541 " "   |
| 454 Grand Canon of the Yellowstone             | 497 Veranda Hotel Norris, in Winter         | 542 Basaltic Canon, Mouth of Tower Creek                |
| 455 Grand Canon of the Yellowstone             | 498 North Cottage Fire Hole                 | 543 The Canon of the Yellowstone, from the Falls        |
| 456 Grand Canon of the Yellowstone             | 499 Upper Geyser Hotel, in Winter           | 544 The Canon of the Yellowstone, from the Falls        |
| 457 Grand Canon of the Yellowstone             | 500 Bee Hive Bridge, in Winter              | 545 The Canon, from Moran's Point, down                 |
|  | 501 South from Bee Hive, in Winter          | 546 The Canon, from Moran's Point, down                 |
|  | 502 Yellowstone Lake                        | 547 The Canon from foot of the Great Falls              |
|  | 503 Boiling Spring, Sulphur Mountain        |   |

- 548 The Canon, from between the Falls  
 549 The Great Falls, near view, instantaneous  
 550 The Great Falls, near view, instantaneous  
 551 The Great Falls, from Moran's Point  
 552 The Great Falls, from Moran's Point  
 553 The Great Falls, from Moran's Point, near  
 554 The Great Falls, from Moran's Point, distant  
 555 The Great Falls, from Moran's bottom of Canon  
 556 The Great Falls, from Moran's, on the crest  
 557 The upper Falls, distant  
 558 The upper Falls, near  
 559 The upper Falls, on the crest  
 560 Rapids of the Yellowstone  
 561 Crystal Falls  
 562 Grotto Pool  
 563 Silver Cord Cascade  
 564 The Stranded Boulder  
 565 The Yellowstone River from the Mud Geyser  
 566 Boiling Sulphur Springs, Crater Hills  
 567 Yellowstone Lake, near Bridge Creek  
 568 Yellowstone Lake, Steamboat Point  
 569 Yellowstone Lake, Mary's Bay  
 570 Yellowstone Lake, Mary's Bay  
 571 Yellowstone Lake, Park Point  
 572 Upper Geyser Basin, from Old Faithful  
 573 Old Faithful, from the Lioness  
 574 Old Faithful, from the Giantess  
 575 Old Faithful, in eruption  
 576 " " "  
 577 " " "  
 578 " " "  
 579 " " "  
 580 " " "  
 581 Crater of Old Faithful  
 582 " " "  
 583 The Giantess in eruption  
 584 " " "  
 585 " " "  
 586 The Grand in eruption  
 587 Craters of the Grand and Turban  
 588 The Splendid in eruption  
 589 " " "  
 590 The Castle in eruption  
 591 " " and Crested Spring  
 592 Crater of the Castle  
 593 The Castle and Old Faithful  
 594 The Grotto in eruption  
 595 " " "  
 596 Crater of the Grotto  
 597 The Turban in eruption  
 598 The Steamboat in eruption  
 599 The Crater of the Giant  
 600 " " "  
 601 " " "  
 602 Young Faithful  
 603 The Riverside in eruption

- 604 The Black Sand Hot Spring  
 605 The Punch Bowl  
 606 Boiling Spring near the Giantess  
 607 Boiling Spring near the Giantess  
 608 Boiling Spring near the Giantess  
 609 The Lone Star Geyser in eruption  
 610 The Lone Star Geyser, the Crater  
 611 Keppler's Cascade  
 612 " " "  
 613 " " "  
 614 Little Fire Hole Falls  
 615 Excelsior Geyser Basin  
 616 Crater of the Excelsior  
 617 " " " near  
 618 Terraced Border of Prismatic Spring  
 619 The Fountain Geyser in eruption  
 620 The Fountain Geyser in eruption  
 621 Crater of the Great Fountain Geyser  
 622 Sounding the Great Blue Spring  
 623 The Paint Pot Hot Mud Spring  
 624 Boiling Springs in Queen's Laundry  
 625 Boiling Springs in Queen's Laundry  
 626 Crater of the Deluge Geyser, Red Mountain Basin  
 627 Summit of Mount Washburn

## California.

- 1 State Capitol.  
 2 Panorama from Dome of Capitol.  
 3 The City from Russian Hill  
 4 The Harbor.  
 5 The Seal Rocks,  
 6 Chinese Joss House, exterior.  
 7 Chinese Joss House, interior.  
 8 Street in the Chinese Quarter.  
 9 U. S. Mint.  
 10 Palace Hotel.  
 11 Golden Gate.  
 12 Magic Tower at Marion Point—Yosemite Valley.  
 13 Nevada Falls, Side View—Yosemite Valley.  
 14 Yosemite Falls, Upper and Lower—Yosemite Valley.  
 15 Mirror Lake and Mt. Watkins—Yosemite Valley.  
 16 Yosemite Falls and Mirror Lake—Yosemite Valley.  
 17 Yosemite Valley, from above.  
 18 Cathedral Rock—Yosemite Valley.  
 19 Liberty Cap — Yosemite Valley.  
 20 Climbing the Stairway to Vernal Falls—Yosemite Valley.  
 21 North Dome and Cloud's Rest—Yosemite Valley.  
 22 Indian Camp — Pacific Coast.

- 23 American Group—Sierra Nevada Mountains.  
 24 Devil's Gate—Sierra Nevada Mountains.  
 25 Cathedral Spires—Sierra Nevada Mountains.  
 26 Hoffman Tower — Sierra Nevada Mountains.  
 27 Main st.—Los Angeles.  
 28 Spring st.—  
 29 Arroyo Bridge—L. A. and San Gabriel Valley Railroad.  
 30 Hotel Raymond—Pasadena  
 31 Pasadena, from Linda Vista.  
 32 South Pasadena, from the Raymond.  
 33 Picking and Packing Oranges—Pasadena.  
 34 Prickley Pear Cactus.  
 35 Marrenge ave.—Pasadena  
 36 Orange Grove ave.—Pasadena.  
 37 California Garden.  
 38 Fig Tree.  
 39 Pear Tree.  
 40 Grove of Cactus Plants.  
 41 Devil's Gate—Arroyo Seco.  
 42 Sierra Madre Mountains, from the Raymond.  
 43 Sierra Madre Villa.  
 44 Baldwin's Ranch — San Gabriel.  
 45 Vineyard—Baldwin's Ranch.  
 46 Pampas Grass Farm.  
 47 Banana Tree.  
 48 California Fern.  
 49 Bloom of Spanish Dagger  
 50 Century Plant Bloom.  
 51 Smith's Canon — Sierra Madre Mountains.

## Mariposa Grove of Big Trees.

- 52 Entrance to the Grove.  
 53 The Original Big Tree, 335 ft. high.  
 54 The Butt End Section of the Big Tree, showing the mode of felling these immense Trees, viz, by Pump Augers.  
 55 House Built over Stump of Big Tree.  
 56 Chip of the Old Block.  
 57 Pioneer's Cabin.  
 58 The Mother of the Forest 305 ft. high and 62 ft. in circumference.  
 59 Big Tree, Abraham Lincoln, 281 ft. high and 44 ft. in circumference.  
 60 The Sentinel, 315 ft. high  
 61 Hercules Prostrate.  
 62 Twin Sisters.  
 63 The Mother and Son.  
 64 Grizzly Giant.  
 65 The Fallen Monarch.  
 66 The George Washington

## Yosemite, California, Utah &amp;c

- 67 Inspiration Point.  
 68 El Capitan, from Colfax Point.  
 69 View from "Best General View."  
 70 El Capitan from Mariposa Trail.  
 71 View from Mariposa Trail  
 72 Bridal Veil and Three Graces

- 73 Ribbon Falls  
74 Mirror View of El Capitan  
75 Three Brothers  
76 "Our Party"  
77 Mirror View of Yosemite Valley  
78 Yosemite Falls, 2,600 feet high  
79 View from Upper Bench, looking south  
80 Mirror View of Glacier Rock  
81 La Mon's Rancho  
82 Royal Arches and Washington Columns  
83 Washington Columns and South Dome  
84 North and South Dome  
85 Mirror View, N. and S. Dome  
86 Cloud Effect, N. and S. Dome  
87 Mirror Lake  
88 Lincoln Falls, above Mirror Lake  
89 Tenaya Falls  
90 The Old Chief, Sunset View  
91 Hutchins Ridge  
92 Register Rock  
93 Vernal Falls  
94 Sentinel Rock  
95 The Last Arrow  
96 Eagle Peak  
97 Yosemite Indians  
98 The Merced River  
99 Nevada Falls  
100 Liberty Cap  
101 Rapids above Vernal Falls  
102 Sentinel Rock  
103 Looking up the Valley  
104 Looking down the Valley  
105 Mirror View of Cathedral Rocks  
106 Cascade on Chimney Rock  
107 Weptac, or Eagle Falls  
108 Wawona, the Tunnel-Tree  
109 Mariposa Grove  
110 Mariposa Grove, Big Trees  
111 Cathedral at Monterey  
112 Stage at Alder Creek, Going to Yosemite
- Yosemite.*
- 112 Yosemite Falls, Through the Trees  
113 Vernal Falls (Instantaneous)  
114 Grizzly Giant, Mariposa Grove  
115 The Three Brothers  
116 Fallen Monarch, Mariposa Grove  
117 George Washington  
118 Mother of the Forest  
119 Big Trees, Mariposa Grove  
120 Mariposa  
121 Placer Mining by Chinamen  
122 Sugar Pine Cone  
123 Digger Indian Huts  
124 Digger Indian Sweat-house  
125 Digger Indian Storehouse  
126 Golden Gate, from Telegraph Hill  
127 Seal Rocks, from Cliff House  
128 Mt. St. Helena, 5600 feet above sea level  
129 View up Devil's Canyon
- 130 View on Summit on the C.P.R.R.  
131 Donner Lake, C.P.R.R.  
132 Snow Sheds, C.P.R.R.  
133 Mirror View on Mary's Lake, C.P.R.R.  
134 New Tabernacle, Salt Lake, Utah  
135 Old and New Tabernacle, Salt Lake, Utah  
136 Salt Lake City, Utah  
137 View from Ogden Canon  
138 Weher's Canon, U.P.R.R.  
139 Devil's Slide, U.P.R.R.  
140 Witch Rocks, U.P.R.R.  
141 Pulpit Rock, U.P.R.R.
- Sierra Nevada Mountains.*
- 142 Lake Tenaya Fall  
143 Hoffman Tower  
144 Devil's Gate  
145 American Group  
146 Crest of Mt. Hoffman  
147 Volcanic Mountains  
148 The Bloody Canyon
- Colorado.*
- Indians.*
- 1 Piab and other Ute Chiefs  
2 Squaw and Pappoose  
3 War Chief's Tent  
4 Camp of Colorow's Band  
5 " " "  
6 A Camp at Los Pinos  
7 " " "  
8 Piab's Pappoose  
9 Group of Ute Chiefs at the Denver Exposition
- Camps, Etc., Etc.*
- 10 Camping in Middle Park  
11 A Camp in a Quaking Asp Grove  
12 Burros Packed for a Mountain Trip  
13 "Carbonate Bill," Prospector  
14 Mining, at the mouth of the Tunnel  
15 Packing—Cinching the Aparejo  
16 Packing—Putting up the Load  
17 Packing—Cinching the Load  
18 Packing—The last Pull  
19 The Three Graces  
20 Mountain Milk Cart  
21 The Fauna of Colorado—Head of an Elk  
22 The Fauna of Colorado—Elk Lying Down  
23 The Fauna of Colorado—Head of Black Tail Deer  
24 The Fauna of Colorado—Head of Antelope  
25 The Fauna of Colorado—Head of Mountain Sheep  
26 The Fauna of Colorado—Head of Buffalo  
27 The Fauna of Colorado—Coyotes  
28 The Fauna of Colorado—Mountain Lion  
29 The Fauna of Colorado—Sage Hens  
30 The Fauna of Colorado—Ptarmigans  
31 A Day's Hunting in Middle Park  
32 Study of Burro's Head
- Pacific Slope, Columbia River, Mt. Hood, Mt. Tacoma, etc.*
- 1 Flathead Indian Agency  
2 The Jocko Valley, No. 1  
3 The Jocko Valley, No. 2  
4 Mt. Ronan, Mission Range  
5 Mt. Ronan, Mission Range  
6 Up Clark's Forks from Duncan  
7 Along Clark's Forks River  
8 Along Clark's Forks River  
9 Confluence Clark's Forks and Missoula  
10 Deer Park, Clark's Forks River  
11 Mt. Missoula, Clark's Forks River  
12 The Clark's Forks above Paradise  
13 Paradise Bluffs, Clark's Forks River  
14 East Entrance to Horse Plains  
15 Thompson Bluffs, Clark's Forks River  
16 Up Clark's Forks from Thompson River  
17 Thompson River from the R. R.  
18 Thompson Falls and City, M. T.  
19 Up Clark's Forks, from Cabinet  
20 Cabinet Gorge, Clark's Fork's River  
21 Cabinet Gorge, Clark's Forks River  
22 Cabinet Gorge, the Narrows  
23 Cabinet Gorge from the R. R.  
24 Hope Station, Lake Pend d'Oreille  
25 Pend d'Oreille Lake and Hotel  
26 Highland House, Lake Pend d'Oreille  
27 Lake Pend d'Oreille from the Hotel  
28 Cascades of the Columbia  
29 Salmon Fishing, Columbia River  
30 Salmon Fishing, Columbia River  
31 Salmon Wheel, Columbia River  
32 Mt. Hood, Oregon. (Upright.)  
33 Mt. Hood, Oregon. (Oblong.)  
34 Mt. Hood, Oregon, in Clouds  
35 Oneonta Station  
36 Oneonta Gorge  
37 Oneonta Gorge, from R. R.  
38 Up the Columbia, from Oneonta  
39 Hanging Rock and Railroad  
40 The Guardian of the Track  
41 A Chinaman Section Gang  
42 The Pillars of Hercules and R. R.  
43 The Pillars of Hercules Columbia River  
44 The Pacific Express at Multnomah  
45 Multnomah Falls, 824 ft.  
46 Lower Multnomah Falls

- 47 Tooth Bridge, Columbia River
- 48 A Glimpse of Tooth Bridge
- 49 Lower Cascades of the Columbia
- 50 Interior Tunnel No. 1
- 51 East Entrance to Tunnel No. 1
- 52 Columbia River and Tunnel No. 1
- 53 Echo Bay and Palisades
- 54 Palisades of the Columbia (Upright)
- 55 Palisades of the Columbia (Oblique)
- 56 Echo Bay and Rooster Rock
- 57 Rooster Rock, Columbia River
- 58 Portland, Oregon, from the south
- 59 Portland Harbor, O. & C. Ferry
- 60 Portland Harbor, Willamette River
- 61 Transfer Landing, Willamette River
- 62 "The Tacoma," Tacoma, W. T.
- 63 Tacoma Harbor, Puget Sound
- 64 Tacoma Harbor, Puget Sound
- 65 Summit of Mt. Tacoma
- 66 Summit of Mt. Tacoma
- 67 Summit of Mt. Tacoma
- 68 Above the Clouds, from Mt. Tacoma
- 69 Above the Clouds, from Mt. Tacoma
- 70 Crater Rock, Mt. Tacoma
- 71 Crater Lake, Mt. Tacoma
- 72 Crater Lake, Mt. Tacoma
- 73 Castle Peak, Crater Lake
- 74 Camping Point, Crater Lake
- 75 West Entrance to Stampede Tunnel
- 76 First Tunnel, west of Stampede
- 77 The Switchback over the Cascade Range
- 78 The Switchback, over the Cascade Range
- 79 The Switchback over the Cascade Range
- 80 The Switchback over the Cascade Range
- 81 The Switchback over the Cascade Range
- 82 Summit of the Switchback
- 83 West from Summit of Switchback
- 84 Sulphur Mountain.
- 85 Bismarck Bridge.
- 86 Portland, Oregon.
- 87 Multnomah Falls, 824 ft.
- 88 " " " "
- 89 Rooster Rock.
- 90 " " and Station
- 91 Echo Bay and Palisades.
- 92 Oneonta Gorge.
- 93 Cascades of the Columbia and Locks.
- 94 Cascades of the Columbia Rapids.
- 95 Cascades of the Columbia Rapids.
- 96 Pillars of Hercules.
- 97 Mount Hood, 12,000 feet elevation.

- 98 Mount Hood, in Clouds.
- 99 "The Tacoma," Tacoma, W. T.
- 100 The Quartz Mill, from the North.
- 101 The Quartz Mill, Tramway and Mine.
- 102 Gloster City and Mine.
- 103 Pegan Gulch.
- 104 The Quartz Mill.
- 105 The Hoisting Works.

#### Miscellaneous Views.

- 106 Eagle Butte, Yellowstone River
- 107 Cut through Eagle Butte
- 108 Up the Yellowstone from Eagle Butte
- 109 Palisade of the Yellowstone
- 110 Eagle Butte Grade, Yellowstone River
- 111 Ferry Point and Graham's Island, Devil's Lake
- 112 Fort Totten, Devil's Lake, from Sully's Hill
- 113 Fort Totten, Devil's Lake, from south
- 114 Testing the Bismarck Bridge
- 115 The Crazie Mountains, M. T.
- 116 The Bismarck Bridge
- 117 Placer Mining in Bear Gulch, M. T.
- 118 Placer Mining in Bear Gulch, M. T.
- 119 Placer Mining in Bear Gulch, M. T.
- 120 Placer Mining in Bear Gulch, M. T.
- 121 Placer Mining in Bear Gulch, M. T.
- 122 Placer Mining in Bear Gulch, M. T.
- 123 Montana Cowboys
- 124 Placer Mining in Emigrant Gulch, M. T.
- 125 Placer Mining in Emigrant Gulch, M. T.
- 126 Placer Mining in Emigrant Gulch, M. T.
- 127 Placer Mining in Emigrant Gulch, M. T.
- 128 Placer Mining in Emigrant Gulch, M. T.
- 129 W. D. Ellis' Horse Ranch, Big Timber, M. T.
- 130 First National Bank Block, Billings, M. T.
- 131 N. P. Depot and Mount Helena
- 132 Potts & Harrison's Horse Ranch, Montana
- 133 Wickes, M. T.

#### Minnesota.

- 1 Washburn Mills, Minneapolis
- 2 Falls of St. Anthony, Minneapolis
- 3 Falls of St. Anthony and Suspension Bridge
- 4 Log Boom and Suspension Bridge
- 5 Viaduct and Mills, Minneapolis
- 6 The Viaduct and St. Anthony Falls

#### Mexico.

- 1 Organ Cactus
- 2 Woman making Tortillas
- 3 Pulque Gatherer
- 4 Silver Hacienda of Regla
- 5 Castle of Chapultepec, exterior
- 6 Castle of Chapultepec, a Corridor
- 7 Castle of Chapultepec, The Grove
- 8 Mexican Moss
- 9 Tree of Cortez
- 10 Hill where Maximilian was shot
- 11 Cathedral of Guadalupe
- 12 Interior of Church of Our Lady Guadalupe
- 13 Popocatepetl
- 14 Popocatepetl, climbing up
- 15 Panorama of Vera Cruz
- 16 Harbor of Vera Cruz
- 17 Cascade of Atoyac
- 18 Cathedral and Plaza at Puebla
- 19 Hand Dug Canal
- 20 Ford on Montezuma River
- 21 Sentry Post
- 22 Open Rocks
- 23 Iron Bridge, Built by Natives
- 24 Tunnel, Vera Cruz Railway
- 25 Native Hut
- 26 Native Refreshment Stand
- 27 Traveling Merchant
- 28 Market Women on Canal
- 29 Native Horse Cars
- 30 A Happy Family
- 31 Donkeys
- 32 Mexican Bride
- 33 Coach at Merida
- 34 Market Place, Monterey
- 35 Panorama of City of Mexico
- 36 Gates for Collecting Customs
- 37 San Domingo and the Spanish Inquisition
- 38 Aztec Monument
- 39 Aztec Sacrificial Stone
- 40 Aztec Calendar
- 41 Aztec God of War
- 42 National Library
- 43 Church of the Holy Well
- 44 Statue of Columbus
- 45 Zocalo Gardens
- 46 Statue of Charles IV., of Spain
- 47 Site of Cortez Defeat
- 48 Canal entering Mexico
- 49 Tomb of Juarez
- 50 Old Palace of Emp. Iturbide
- 51 Paso del Norte, from the Church
- 52 Paso del Norte, from the Cathedral
- 53 Station of San Jose, M. C. R. R.
- 54 Chihuahua, Panorama from the East
- 55 Chihuahua, Panorama from the West
- 56 Chihuahua, Panorama from the Mint
- 57 Chihuahua, Panorama from the Mint
- 58 Chihuahua, Panorama from the Cathedral





- 201 City of Mexico, the Tree and Church of Noche Triste
- 202 City of Mexico, Old Church at Popotla
- 203 City of Mexico, Court of the National Museum
- 204 City of Mexico, Sacrifice Stone
- 205 City of Mexico, The Idol Teoyomiquil
- 206 City of Mexico, The Idol Teoyomiquil
- 207 City of Mexico, Calendar Stone
- 208 City of Mexico, Group of Idols in National Museum
- 209 City of Mexico, Group of Idols in National Museum
- 210 City of Mexico, Serpentine Bust of the Goddess Centeotl
- 211 City of Mexico, Huitzilopochtli in National Museum
- 212 City of Mexico, Base of Carved Vase, National Museum
- 213 City of Mexico, Collections of Idols and Pottery, Winged Vase
- 214 City of Mexico, Collections of Idols and Pottery
- 215 City of Mexico, Collections of Idols and Pottery
- 216 City of Mexico, Collections of Idols and Pottery
- 217 City of Mexico, Collections of Idols and Pottery
- 218 City of Mexico, Collections of Idols and Pottery
- 219 City of Mexico, the Castle of Chapultepec, from a Magrey Field
- 220 City of Mexico, the Castle of Chapultepec, from a Magrey Field
- 221 City of Mexico, the Castle of Chapultepec, the Gardens
- 222 City of Mexico, the Castle of Chapultepec, Soldier's Monument
- 223 City of Mexico, Montezuma's Tree
- 224 City of Mexico, Montezuma's Tree
- 225 City of Mexico, Grove of Chapultepec
- 226 City of Mexico, Grove of Chapultepec
- 227 City of Mexico, Grove of Chapultepec
- 228 City of Mexico, Grove of Chapultepec
- 229 City of Mexico, Canal de la Viga, Market Day
- 230 City of Mexico, Canal de la Viga, Market Day
- 231 City of Mexico, Canal de la Viga, Boat Scenes
- 232 City of Mexico, Canal de la Viga, Boat Scenes
- 233 City of Mexico, Canal de la Viga, Boat Scenes
- 234 City of Mexico, the Garita de la Viga

- 235 City of Mexico, Straw Cottage at Ixtacalco
- 236 City of Mexico, the Chincampas
- 237 City of Mexico, Bust of Gautamozin
- 238 Popocatepetl, from Amecameca
- 239 Ixtacchihuati, from Amecameca
- 240 Ixtacchihuati, from Tlaxacas
- 241 Ixtacchihuati, from Tlaxacas
- 242 Popocatepetl, from Tlaxacas
- 243 View in the Crater of Popocatepetl
- 244 View of the Crater of Popocatepetl
- 245 Tlaxacas
- 246 Cloud Effect from Tlaxacas
- 247 Sacramonte, the Stairway
- 248 Cuauhtla, Street Views
- 249 " " "
- 250 " Court, with Palm
- 251 " The Scavengers
- 252 " Sugar Mill
- 253 " Street Groups
- 254 " " "
- 255 Pyramids of San Juan Teotihuacan
- 256 Pathway of the Dead and Pyramid of the Moon
- 257 Pyramid of the Sun from the Pyramid of the Moon
- 258 Pyramid of the Sun from the Pyramid of the Moon
- 259 Pyramid of the Sun from the Pyramid of the Moon
- 260 Idol found near the Pyramid of the Moon
- 261 Charnay Excavations
- 262 Church of San Sebastian
- 263 Texcoco, the Cathedral
- 264 " the Court
- 265 " Fountain in the Plaza
- 266 Texcoco, Ancient Stairway
- 267 Texcoco, Ancient Excavations
- 268 Texcoco, view from the Summit
- 269 Puebla, general view from Cathedral
- 270 Puebla, general view from Cathedral
- 271 Puebla, general view from Cathedral
- 272 Puebla, the Hotel Diligencias
- 273 Puebla, the Cathedral
- 274 " the Bells in the Tower
- 275 Cholula, the Pyramid
- 276 " " " Front
- 277 " Interior of Chapel on Pyramid
- 278 Cholula, from the Pyramid
- 279 Cholula, View Looking East, Showing Malinche
- 280 Pulquerio, in Magrey Field, near Pyramid
- 281 Orizaba, from the Bridge looking up
- 282 Orizaba, from the Bridge looking down

- 283 Orizaba, from the Bridge
- 284 " " "
- 285 " " "
- 286 " a Street View
- 287 " Lane of Bananas
- 288 " Market Scene
- 289 " In a Coffee Grove

**West Indies.**

- 1 Coconut Island
- 2 Sugar Plantation, Tobago
- 3 English Harbor, Antigua
- 4 Government House, Dominica
- 5 Bolling Lake, Dominica
- 6 Carib Kitchen, Dominica
- 7 Two Old Caribs, Dominica
- 8 The Quay, Martinique
- 9 Birth-place of Josephine, Martinique
- 10 Home of Josephine
- 11 A Mulatress
- 12 An Octoroon
- 13 A Quadroon
- 14 A Mulatto

**Labrador.**

- 1 Esquimaux and Kyaks
- 2 Esquimaux in Winter Costume
- 3 Fish Cove
- 4 Icebergs — St. Nicholas Bay
- 5 Square Island Harbor

**Arctic Regions.**

*Dr. Kane's Explorations, 1852-1855.*

- 1 Portrait of Dr. Kane
- 2 The Lookout from Cape George Russell
- 3 The Pack off Sylvia Island
- 4 Ice Belt at Coffee Gorge
- 5 Fiskewaes, South Greenland
- 6 Parting Hawsers off Godsend Ledge
- 7 Icebergs near Kosoak (Life Boat Cove)
- 8 Life in the Esquimaux Iyloe (Etah)
- 9 Bear Hunt
- 10 The Escape off Wearyman's Rest
- 11 The Broken Floes (Belt Ice)
- 12 Walrus Hunt off Pikautlik
- 13 Kasarsoak, Sanderson's Hope, Upernavik

*Scenes Illustrating the De Long Expedition.*

- 14 Portrait of Commander DeLong, U. S. N.
- 15 Adventure in the Little Juanita
- 16 Sinking of the Jeanette
- 17 Dragging the Boats over the Ice
- 18 DeLong and party wading ashore
- 19 The Boats Separated in the Gale
- 20 Finding the Remains of DeLong

- 21 Harbor of Upernavik,  
Greenland
- 22 Group of Esquimaux
- 23 An Ice Floe
- 24 Icebergs
- 25 Halos
- 26 Aurora

#### New Orleans.

- 1 On the Levee
- 2 On the Cotton Levee
- 3 Caught Napping
- 4 Group of Hoodlums
- 5 Among the Sails
- 6 The French Market
- 7 The French Market, Choctaw Indians
- 8 Jackson Square
- 9 St. Louis Cathedral
- 10 A Street Cobbler
- 11 The Rue Royale
- 12 The Old Criminal Court
- 13 A Creole Home, Gathering Oranges
- 14 A Creole Home, at the Gate
- 15 Sugar Cane and Oranges
- 16 New Orleans Cisterns
- 17 Lee Monument
- 18 U. S. Mint
- 19 Margaret Statue
- 20 The French Quarter
- 21 Old Spanish Houses
- 22 Stonewall Jackson's Monument
- 23 Canal Street
- 24 St. Charles Hotel
- 25 U. S. Custom House and Postoffice
- 26 Exchange Alley
- 27 Stuck in the Mud
- 28 All Three Puzzled
- 29 New Orleans Milkman
- 30 Italian Cemetery
- 31 The End of Time
- 32 St. Louis Cemetery
- 33 Washington Cemetery
- 34 Royal Street
- 35 House of Louis Phillippi
- 36 Old City Hall
- 37 Old New Orleans Theatre
- 38 LaFayette Square
- 39 Steur George's House
- 40 New Orleans from a House Top
- 41 Avenue of Live Oaks
- 42 A Live Oak Monarch
- 43 Mexican Peasant
- 44 Mexican Cavalier
- 45 The Yucca Tree in Bloom
- 46 Leland University
- 47 Leland University Kindergarten
- 48 Leland University, Group of Students
- 49 New Orleans Home
- 50 Liberty Bell in the South

#### Louisiana.

- 1 Lake Ponchartrain, Entrance to Bayou La Combe
- 2 Bayou La Combe, "Morning Mist"
- 3 Bayou La Combe, "Sunrise"
- 4 Lake Borne
- 5 Lake Borne "Moonlight"
- 6 Cypress, Palmetto and Water Lily, Bayou La Combe

- 7 Deep in the Swamp
- 8 Palmetto Swamp
- 9 Bayou La Fourche
- 10 A Wilderness of Growth
- 11 A Live Oak Swamp
- 12 The Moss Gatherer
- 13 A Home on the Lake
- 14 A Steamer Landing, Lower Mississippi
- 15 Scenes by the Way
- 16 An Inclined Plane
- 17 A Levee Group
- 18 Beauvoir, "The Home of Jefferson Davis"
- 19 Beauvoir, "The Family Group"
- 20 Beauvoir, "The Quarters"
- 21 Beauvoir, "Favorite Seat"
- 22 The Old Slave Bell

#### Alabama.

- 1 Dauphin street, Mobile
- 2 Mobile Academy

#### Florida.

- 1 Fort Pickens, Pensacola
- 2 Fort Pickens, east side
- 3 Fort Pickens, Fronting Bay
- 4 Fort Pickens, 25-Ton Gun
- 5 Isle of Santa Rosa
- 6 Navy Yard
- 7 Avenue in Navy Yard
- 8 Palofur street, Pensacola
- 9 Shooting Alligators
- 10 Florida Express
- 11 Plantation Scene
- 12 Cypress Swamp
- 13 Log Cabin
- 14 Cotton Picking
- 15 Flip Flap Millila
- 16 Palmetto Trees, St. John's River
- 17 Negro Life: Love in a Cottage
- 18 Negro Life: Plantation Negroes

#### St. Augustine.

- 19 Old City Gate
- 20 Panorama of St. Augustine
- 21 City Gates—Another View
- 22 St. George street
- 23 Treasury street
- 24 Oldest House in St. Augustine
- 25 Tropical Follage
- 26 Orange Grove
- 27 Marine street
- 28 Plaza and Old Spanish Cathedral
- 29 Slave Market and Plaza
- 30 Slave Market—Nr. View
- 31 Slave Market—Interior
- 32 A Tropical Paradise
- 33 Philadelphia House
- 34 Villa Zarada
- 35 Old House in Charlotte street
- 36 A Spanish Cathedral
- 37 A Florida Garden
- 38 A Group of Plenklers
- 39 Stately Date Palm
- 40 Artesian Well, 50 feet high
- 41 "The Palms," or William's Place
- 42 Avenue of Palms
- 43 Monster Live Oak—New St. Augustine

- 44 Little Minorcan Girl
- 45 A Sleepy Pair
- 46 Group of Donkeys, No. 1
- 47 A Gentle Rider
- 48 Group of Donkeys, No. 2
- 49 The Two Dromios
- 50 A Study from Still Life—(Fruits of the Soil)
- 51 William's Mansion—The Palms
- 52 Cabbage, Palmetto
- 53 St. Augustine, from the Fort Tower
- 54 View from Lookout Tower—Showing City and Harbor
- 55 Entrance to Fort San Marco
- 56 Stairway to Parapet
- 57 Quadrangle
- 58 Watch Tower
- 59 Hot Shot Furnace and Mount
- 60 View of South Side of Fort
- 61 Bridge and Moat
- 62 Powder Magazine
- 63 General View of Fort
- 64 Old Fort, from Tower of Hotel
- 65 San Marco Hotel
- 66 The Dungeon
- 67 Anastasia Island
- 68 Marine Band—Third Regiment
- 69 Parade Ground—U. S. Barracks
- 70 Military Review
- 71 Spanish Cathedral—Near View
- 72 Street Scene, St. Augustine

#### Jacksonville.

- 73 St. James' Hotel
- 74 Live Oaks, Forsythe st.
- 75 Street Scene
- 76 Jacksonville from a Schooner's Deck—River Front
- 77 Jacksonville
- 78 Piers and Shipping
- 79 St. John's River, near Fort George
- 80 May Point Lighthouse
- 81 St. John's River, near May Point
- 82 May Point Landing
- 83 St. John's River, near Arlington Creek
- 84 A Cracker's Home
- 85 Group of Palmettos, Arlington Creek
- 86 An Isle of Palms
- 87 Bayou Scene, St. John's River
- 88 A Wayward Palm
- 89 Sanford Park
- 90 Sanford Pier
- 91 On the Bayou

#### Georgia.—Savannah.

- 1 Ball Street Fountain
- 2 Broughton street
- 3 Pulaski Monument
- 4 Forsythe Park, Ball street Entrance
- 5 Savannah Market
- 6 Bonaventure Cemetery
- 7 Avenue of Live Oaks

*Macon.*

- 8 Central City Park
- 9 Cobblers' headquarters

*Atlanta.*

- 10 New state capitol
- 11 Old state capitol
- 12 Custom house
- 13 Opera house and custom house
- 14 Court house
- 15 Broad st.
- 16 Confederate monument
- 17 Gate City National Bank
- 18 Wall st., north
- 19 Wall st., south
- 20 Prior st., northeast
- 21 Marietta st.
- 22 Union railroad station
- 23 Whitehall st.
- 24 Ben Hill monument
- 25 Kemble house
- 26 Atlanta Cotton Factory
- 27 Cotton factory
- 28 Kiser monument, Oakland cemetery
- 29 Residence of J. H. Porter, Peach Tree st.
- 30 First Methodist Church
- 31 Brown monument, Oakland Cemetery
- 32 View in Grant's Park
- 33 Pavilion, Grant's Park
- 34 Fort Monroe
- 35 Lake View
- 36 The rag merchant
- 37 Group of cotton pickers
- 38 Group of darkies.
- 39 Freeman's cabin
- 40 Cotton picking
- 41 W. A. railroad yards
- 42 Richard's residence, Peach Tree st.
- 43 Cotton merchant
- 44 Cotton plant in bloom
- 45 Piney Woods cabin
- 46 Ox team
- 47 Ox cart
- 48 Picturesque negro cabin
- 49 Stick and mud chimney
- 50 Aunt Chloe

**South Carolina.**

*Charleston.*

- 1 Washington square
- 2 Marion square
- 3 City hall
- 4 Battery Park
- 5 Custom house
- 6 Huguenot Church
- 7 Meeting st.
- 8 Beauregard's headquarters during the war
- 9 Shipping
- 10 Fort Sumter
- 11 Magnolia Cemetery

**North Carolina.**

- 1 Round Knob Hotel and fountain
- 2 Railroad bridge on Mill creek
- 3 Viaduct bridge, Round Knob
- 4 Deep Cut, near Round Knob
- 5 Viaduct, bridge and fountain, from the hotel porch
- 6 Cascades on Mill creek

- 7 Big Fill trestle, looking up 165 feet high
- 8 \*A series of tunnels, from Lick Log to McIlroy
- 9 Blue Ridge at Royal Gorge
- 10 View from top of Mount Mitchell hotel
- 11 \*Swannanoa valley
- 12 Black Mountain station
- 13 French Broad valley, near Asheville
- 14 \*Main st., Asheville
- 15 \*Baptist Church, Asheville
- 16 Episcopal Church, Asheville
- 17 Village market cart
- 18 Buncombe county court house
- 19 \*French Broad river, above Asheville
- 20 Beaucatcher mountain
- 21 View from "Connely's"
- 22 \*Beaucatcher Knob
- 23 View of the French Broad river
- 24 Richmond Hill summer house
- 25 \*An Asheville elder cart
- 26 \*Group of villagers
- 27 \*An ideal home, Asheville
- 28 A reflected image, Asheville
- 29 \*Village jubilee, Asheville
- 30 \*A daring feat
- 31 Chalybeate spring
- 32 \*Saw mill, Stony creek
- 33 \*Haywood white sulphur spring
- 34 \*Hotel (before the fire)
- 35 Hotel (after the fire)
- 36 Waynesville, east
- 37 Waynesville, west
- 38 Group of Cherokee Indians
- 39 Main st., Waynesville
- 40 Public school, Waynesville
- 41 Balsam mountain
- 42 Old mill, Stony run
- 43 \*Foot-log (rustic), Stony Run
- 44 \*The summit of Balsam mountain
- 45 \*Cascades of Scotch creek
- 46 \*A tobacco farm and fox hunters
- 47 \*Cowee tunnel
- 48 \*Whittier
- 49 \*Bird's eye view of Charleston
- 50 \*On the Tuckaseegee at Charleston
- 51 \*Junction of Tuckaseegee and Tennessee rivers
- 52 \*Cascade of the Tuckaseegee river
- 53 \*View of the Tennessee river
- 54 Bridge over the Tennessee river
- 55 Marble Cut
- 56 \*A mountain home, Capt. Turner's headquarters
- 57 A rock bouse, Nantahala river
- 58 Corn cracker, or native grist mill
- 59 Cut Stairs, terminus of the W. N. C. R. R.
- 60 \*A mountain farm
- 61 \*Nantahala river
- 62 \*Nantahala valley at Nelson's

- 63 \*Fish dam
- 64 \*The moonshiner's camp
- 65 \*A mountain still
- 66 \*A mountain slope
- 67 \*Cascades of the Nantahala river
- 68 \*Cloud effect on the mountain
- 69 \*Valley of Noon-Day Sun
- 70 \*The chain gang
- 71 \*A picturesque cabin (Dr. Schenck)
- 72 \*North Carolina grist mill
- 73 \*Log cabin, family group
- 74 \*Corn cracker and flume
- 75 \*Valley of Valley river
- 76 \*Ploughing in W. N. C.
- 77 \*On the mountain trail
- 78 \*The Hiwassee river
- 79 \*The "hoss trader"
- 80 \*Corundum mine, near Franklin
- 81 Corundum mine, interior
- 82 \*Whitewater mountain
- 83 \*Satulah Falls, near Highlands
- 84 Satulah Falls, near view

**Mississippi.**

- 1 Vicksburg
- 2 Steamers

**Virginia.**

- 1 Richmond, from Libby Hill
- 2 Terrace on Burk Hill
- 3 Main st., Washington's headquarters on the right
- 4 Main st.
- 5 View from Burk Hill
- 6 Washington monument
- 7 Old southern residence
- 8 Natural bridge
- 9 Fortress Monroe
- 10 \*Harper's Ferry, from Jackson's Battery
- 11 \*Down the Potomac
- 12 \*Looking up the Shenandoah
- 13 \*John Brown's Fort
- 14 Panorama—Richmond
- 15 Docks
- 16 Libby Prison
- 17 Confederate capitol
- 18 Statue of Washington in capitol
- 19 Statue of Patrick Henry in capitol
- 20 St. John's Church, where Patrick Henry made his famous speech
- 21 Washington's headquarters, the oldest house in Richmond
- 22 President Monroe's tomb, Hollywood
- 23 Belle Isle
- 24 Rapids of the James river

*Richmond.*

- 25 Ruins in Carry st.
- 26 Confederate monument
- 27 St. Paul's Church
- 28 Main st.
- 29 Washington monument
- 30 Galleo Flour Mills
- 31 Washington's headquarters
- 32 Stonewall Jackson's monument

- 33 Y. M. C. A. building
- 34 Libby prison
- 35 Residence of Jefferson Davis
- 36 State capitol
- 37 View of Richmond, south-east
- 38 James river
- 39 Richmond over the James river
- 40 Railroad bridge, James river

*Fredericksburg.*

- 41 Fredericksburg from the Lacy House
- 42 The Lacy House
- 43 Burnside's Headquarters, with town in distance
- 44 Massachusetts Battery, near the Scott House
- 45 Group in front of Scott House
- 46 Slave Quarter, Scott House
- 47 Gen. Sumner's Headquarters
- 48 Sumner's Crossing
- 49 Tomb of Washington's Mother
- 50 Marie's Heights
- 51 View from Stonewall Jackson's Headquarters at Hamilton's Crossing
- 52 The National Cemetery
- 53 Confederate Monument and Cemetery
- 54 Ruins of the Bernard Mansion
- 55 View on the Rappahannock from Bernard Mansion
- 56 Franklin's Crossing, Rappahannock

*Bull Run.*

- 57 Washington, from Arlington Heights
- 58 Arlington Heights
- 59 The Drive at Arlington
- 60 The Henry House
- 61 Soldier's Monument near the Henry House
- 62 The Battlefield toward Thoroughfare Gap
- 63 The Battlefield where Gen. Bee fell
- 64 The Battlefield toward Centreville
- 65 The Bridge at Bull Run
- 66 The Old Stone House
- 67 The Ford at Sudley Springs
- 68 The Old Mill near Sudley Ford
- 69 Stonewall Jackson's position north of Warrentown Pike
- 70 Longstreet's position south of Warrentown Pike, near Groveton
- 71 Scene of last charge of Penn'a Reserves on hill near Henry House

*Chancellorsville.*

- 72 The Marie House
- 73 Fredericksburg from the Marie House
- 74 Gen. Lee's Headquarters

- 75 The Old Red Church
- 76 General View of Battlefield
- 77 Chancellorsville
- 78 Chancellor's House, rear, showing shells
- 79 Hancock and Geary's position, from top of Chancellor House
- 80 Ely's Ford Road from roof of Chancellor House
- 81 Stone, marking spot where Stonewall Jackson fell
- 82 Position of Federal Artillery, 38 guns, on hill near Fairview
- 83 Scene of Charge of 8th Penn'a Cavalry
- 84 Dowdall's Tavern
- 85 Old Wilderness Church and Meikle, Chancellor House

*Richmond.*

- 86 Old Virginia ox-team
- 87 The Capitol Building
- 88 Washington Monument
- 89 Statue of Stonewall Jackson
- 90 House in which Stonewall Jackson died, Guinea Station
- 91 Room in which Stonewall Jackson died, Guinea Station
- 92 The Old Court House, Bowling Green
- 93 Residence of Jefferson Davis (during the war)
- 94 Libby Prison
- 95 The National Cemetery
- 96 The National Cemetery, showing the Post Flag
- 97 Confederate Monument (Pyramid), Hollywood
- 98 Monument to Gen. J. E. B. Stewart, Hollywood Cemetery
- 99 View of Belle Isle from Hollywood Cemetery
- 100 Statue of Washington, Greenough

*Petersburg.*

- 101 Fort Rice
- 102 Fort Mahone, C. S. A.
- 103 Fort Heil
- 104 Fort Stedman
- 105 The Mine
- 106 The Crater
- 106 Blanford Church

*Williamsburg.*

- 107 The Old Court House
- 108 The Old Powder House
- 109 Main Street, Williamsburg
- 110 The Old Churchyard, Williamsburg
- 111 William and Mary College
- 112 President's house, William and Mary College
- 113 The Ravine, Williamsburg
- 114 Fort Magruder, interior
- 115 Fort Magruder, earth-works
- 116 Camp Meeting Shouters, negro

- 117 The Old Episcopal Church, interior

*Mount Vernon.*

- 118 Steamboat Landing
- 119 Washington's Home
- 120 Butler's House
- 121 Butler's House
- 122 Entrance to Washington's Tomb
- 123 The Sarcophagus, Washington's Tomb
- 124 The Tomb of Washington
- 125 The First Tomb of Washington
- 126 Porter's Lodge
- 127 Walk on the Potomac
- 128 View from Window of Washington's Chamber
- 129 Old Pohick Church
- 130 The Mansion
- 131 General View of Washington's Tomb
- 132 Washington's Barn

*Maryland.*

*Baltimore.*

- 1 Panorama of Baltimore
- 2 Battle monument
- 3 Washington monument
- 4 Peabody Institute
- 5 City College
- 6 Catholic Cathedral
- 7 St. Paul's Church
- 8 Mount Vernon Church
- 9 Broadway
- 10 Baltimore st.
- 11 Mount Vernon square
- 12 Eutaw place
- 13 Monument square
- 14 Druid Hill Park
- 15 North st. bridge

*Washington, D. C.*

- 1 Washington, west from dome of capitol
- 2 Washington, east from dome of capitol
- 3 Washington, southwest from capitol
- 4 Capitol, distant view
- 5 Capitol, from Smithsonian Institute
- 6 Capitol, from Treasury building
- 7 Capitol, entrance
- 8 Capitol, east front
- 9 Capitol, west front
- 10 Capitol, full view, principal entrance
- 11 Capitol, Senate exterior
- 12 Capitol, House of Representatives
- 13 Smithsonian Institute, from Treasury building
- 14 Patent and Post Office, from Smithsonian Institute
- 15 Botanical gardens
- 16 Navy Yard, from dome of capitol
- 17 Agricultural Department
- 18 Smithsonian Institute
- 19 New National Museum
- 20 U. S. Post Office
- 21 U. S. Treasury
- 22 Patent Office
- 23 Patent Office, interior

- 24 Senate Chamber
- 25 Hall J. Representatives
- 26 State, War and Navy Departments
- 27 White House, principal front
- 28 White House, reception room
- 29 White House, red room
- 30 White House, blue room
- 31 Potomac, from dome of capitol
- 32 Potomac, from Smithsonian Institute
- 33 Potomac, from Georgetown
- 34 Dome of the capitol
- 35 Allegorical paintings, in dome
- 36 Marble room of the capitol
- 37 Pennsylvania ave.
- 38 Corcoran art gallery
- 39 Main magazine
- 40 Soldiers' Home
- 41 National Cemetery
- 42 Washington's residence
- 43 Washington's tomb
- 44 Lee's residence, Arlington
- 45 Monument "To Unknown Dead"
- 46 Statue of Civilization
- 47 " " Columbus
- 48 " " Jackson
- 49 " " Lincoln
- 50 " " McPherson
- 51 " " Rawlins
- 52 " " Scott
- 53 " " Washington
- 54 " " Thomas

# American History.

Colored, per slide, \$1.50. Plain, 50c. Very choice, being made from the finest steel engravings.

- 1 Landing of Columbus, 1492
- 2 De Soto discovering the Mississippi, 1541
- 3 Landing of Hendrick Hudson, 1609
- 4 Smith rescued by Pocahontas, 1607
- 5 Marriage of Pocahontas, 1613
- 6 Embarkation of Pilgrim Fathers, 1620
- 7 Penn's treaty with the Indians, 1682
- 8 Retreat of Braddock, 1755
- 9 First prayer in Congress, 1774
- 10 Boston massacre, 1775
- 11 Boston tea party, 1775
- 12 Struggle on Concord bridge, 1775
- 13 Retreat of the British from Concord, 1775
- 14 Battle of Lexington, 1775
- 15 Battle of Bunker Hill, 1775
- 16 Washington taking command of the army, 1775
- 17 Capture of Fort Ticonderoga, 1775
- 18 Evacuation of Boston, 1776
- 19 Declaration of Independence, 1776
- 20 Washington crossing the Delaware, 1776
- 21 Battle of Bennington, 1777
- 22 Surrender of Burgoyne, 1777

- 23 Indian massacre at Wyoming, 1778
- 24 Treason of Arnold, 1780
- 25 Surrender of Cornwallis, 1781
- 26 Inauguration of Washington, 1789
- 27 The first Cabinet, 1789
- 28 Deathbed of Washington, 1799
- 29 Battle of Tippecanoe, 1811
- 30 Commodore Perry at Lake Erie, 1813
- 31 Death of Tecumseh, 1813
- 32 Gen. Jackson and Weatherford, the Indian chief, 1814
- 33 Battle of New Orleans, 1815
- 34 Battle of Buena Vista, 1847
- 35 Bombardment of Fort Sumter, April 12, 1861
- 36 Massachusetts regiment passing through Baltimore, 1861
- 37 Assassination of Ellsworth, 1861
- 38 Battle of Rich Mountain, 1861
- 39 Battle of Bull Run, July 16-19, 1861
- 40 Battle of Ball's Bluff, 1861
- 41 Battle of Wilson's Creek, Aug. 9, 1861
- 42 Bombardment of Port Royal, 1861
- 43 Battle of Roanoke Island, Feb. 8, 1862
- 44 Battle of Mill Creek, 1862
- 45 Battle of Pea Ridge, 1862
- 46 Bird's eye view of Fortress Monroe
- 47 Capture of Fort Donelson
- 48 Battle of Pittsburg Landing
- 49 Battle of Newbern, 1862
- 50 Battle of Kelly's Ford, 1862
- 51 Capture of New Orleans, April 25, 1862
- 52 Naval combat between Monitor and Merrimac, March 9, 1862
- 53 Naval combat between Kearsarge and Alabama
- 54 Battle of Fair Oaks, May 31, 1862
- 55 Battle of Antietam, Sept. 17, 1862
- 56 Bombardment of Island No. 10, 1862
- 57 Battle of Shiloh, 1862
- 58 Attack on Fredericksburg, Dec. 13, 1862
- 59 Dead around the flag of the 8th Ohio, Fredericksburg, 1862
- 60 Bombardment of Fort Pulaski, 1862
- 61 Battle of Williamsburg, 1862
- 62 Attack of gunboats on Memphis, 1862
- 63 Battle of Malvern Hill, 1862
- 64 Battle of Chantilly, 1862
- 65 Battle of Murretsboro, 1862
- 66 Siege of Vicksburg, July, 1863
- 67 Battle of Gettysburg, July 1-3, 1863
- 68 Battle of Chickamauga, Sept. 19-20, 1863

- 69 Battle of Lookout Mountain, Nov. 24, 1863
- 70 Siege of Port Hudson, 1863
- 71 Battle of Knoxville, 1863
- 72 Battle of Mobile Bay, 1864
- 73 Farragut lashed to the rigging, Mobile Bay
- 74 Battle of the Wilderness, May 5-6, 1864
- 75 Attack on Fort Wagner
- 76 Sherman's march through Georgia, Dec., 1864
- 77 Capture of Atlanta, 1864
- 78 Capture of Savannah, 1864
- 79 Capture of Fort Fisher, 1864
- 80 Bombardment of Fort Morgan, 1864
- 81 Capture of Petersburg, April 2, 1865
- 82 Surrender of Gen. Lee, April 2, 1865
- 83 First reading of the emancipation proclamation
- 84 Assassination of Abraham Lincoln, April 14, 1865
- 85 Capture of Jeff Davis, May 10, 1865
- 86 Assassination of Garfield, 1865

## Miscellaneous.

- 1 Barbara Freitchie
- 2 American flag
- 3 Eagle on shield
- 4 Liberty and Banner
- 5 Soldier on duty
- 6 Soldiers' home
- 7 Woman's mission
- 8 Home from the war
- 9 Tramp, tramp, tramp. Set of 2 slides

## Gettysburg.

- 1 Position of Geary's brigade, and monument of 28th Penna., on Culp's Hill
- 2 From Culp's Hill, overlooking field from position held by 7th Indiana and Knapp's Battery
- 3 Cemetery Hill, from Culp's Hill
- 4 Culp's Hill from Cemetery Hill Battery B, 4th U. S. Artillery, and 1st N. Y. Artillery in foreground
- 5 Monument in National Cemetery
- 6 Meade's headquarters
- 7 Pickett's charge from Webb's position
- 8 Pickett's Charge from the Angle
- 9 Hancock wounded
- 10 Battlefield, from Little Round Top, Wheat-field and Peach orchard
- 11 Battlefield, from Little Round Top toward Cemetery Hill
- 12 Monterey Gap, from Little Round Top, through which Lee's army retreated.
- 13 Devil's Den
- 14 Main street, Gettysburg, through which Federal army retreated

**Man-of-War.**

- 1 Group of the oldest Blue-jackets
- 2 Training a 15-inch Gun on a Man-of-War
- 3 View of Man-of-War from the Mizzen-top
- 4 Man-of-War spar deck
- 5 The Pivot-Gun drill
- 6 U. S. S. Swatara
- 7 Engineers and Stokers on a Man-of-War
- 8 A Man-of-War—the Ports-mouth
- 9 Repelling Boarders on a Man-of-War
- 10 Gun-deck on a Man-of-War
- 11 Captain's Cabin.
- 12 Officers in the Ward-room, Man-of-War
- 13 Captain's Parlor, Man-of-War
- 14 Eating Mess on Gun-deck, Man-of-War
- 15 Broadside view of a Monitor
- 16 Double-Turreted Monitor in Dry Dock
- 17 Wreck and Survivors of U. S. S. Huron, Kitty Hawk Beach.

**United States History—Early.**

- 1492 to 1881. *With Reading.*
- 1 Landing of Columbus, 1492
  - 2 De Soto discovering Mississippi, 1521
  - 3 Marriage of Pocahontas, 1613
  - 4 Landing of Pilgrims, 1620
  - 5 Penn's Treaty with the Indians, 1682
  - 6 Battle of Lexington, 1775
  - 7 Battle of Bunker's Hill, 1775
  - 8 Declaration of Independence, 1776
  - 9 Washington crossing the Delaware, 1776
  - 10 Washington at Valley Forge, 1777
  - 11 Indian Massacre at Wyoming, 1778
  - 12 Action of Serapis and Richard
  - 13 Capture of Major Andre, 1780
  - 14 General Marion and British Officer, 1780
  - 15 Surrender of Cornwallis, 1781
  - 16 Lafayette at Mt Vernon, 1782
  - 17 Macedonian captured by Frigate U. S., 1812
  - 18 Commodore Perry at Lake Erie, 1813

**Modern U. S. History.**

- 19 Battle of Buena Vista, 1847.
- 20 Scott entering Mexico, 1848
- 21 Bombardment of Fort Sumter, 1861
- 22 Battle of Bull Run, 1861
- 23 Capture of Fort Donelson, 1862

- 24 Naval Combat, Monitor and Merrimac, 1862
- 25 Reading of Emancipation Proclamation, 1862
- 26 Battle of Antietam, 1862
- 27 Siege of Vicksburg, 1863
- 28 Battle of Gettysburg, 1863
- 29 Battle of Lookout Mountain, 1863
- 30 Siege of Petersburg, 1864
- 31 Kearsarge and Alabama, 1864
- 32 Farragut at Mobile Bay, 1864
- 33 Sherman's March through Georgia, 1864
- 34 Surrender of Lee, 1865
- 35 Assassination of Lincoln, 1865
- 36 Assassination of Garfield, 1881

**Prang's American Civil War.***Readings, \$1.50.*

- 1 Sheridan's Final Charge at Winchester
- 2 Battle of Fredericksburg
- 3 Sheridan's Ride
- 4 Battle of Gettysburg
- 5 Battle of Antietam
- 6 Battle of Spottsylvania
- 7 Battle of Chattanooga
- 8 Battle of Kenesaw Mountain
- 9 Allatoona Pass, or "Hold the Fort"
- 10 Siege of Atlanta
- 11 Siege of Vicksburg
- 12 Battle of Shiloh
- 13 Capture of New Orleans
- 14 Monitor and Merrimac
- 15 Battle of Mobile Bay
- 16 Kearsarge and Alabama
- 17 Battle of Fort Hudson
- 18 Capture of Fort Fisher

**Indian Sports and Games.***Colored, per slide, \$1.50. Plans 50 cents.*

- 1 Group of Indians—Osage and Iroquois Warriors with Pawnee women
- 2 American Buffalo
- 3 Wild Horses at play
- 4 Catching the Wild Horse
- 5 Buffalo Hunt—The Near Chase
- 6 Buffalo Hunt—The Chase
- 7 Buffalo Dance
- 8 Buffalo Hunt—The Surround
- 9 White Wolves attacking a Buffalo Bull
- 10 Buffalo Hunt—Approaching a Ravine
- 11 Buffalo Hunt—Chasing Back
- 12 Buffalo Hunt, with Wolf-skin Mask
- 13 Snow Shoe Dance
- 14 Buffalo Hunt on Snow Shoes
- 15 Wounded Buffalo Bull
- 16 Dying Buffalo in a Snow Drift
- 17 The Bear Dance
- 18 Attack on the Grizzly Bear

- 19 Antelope Shooting
- 20 Ball Players—Three Indians
- 21 Ball Play Dance
- 22 Indian Ball Play
- 23 Archery of the Mandans—Indians
- 24 Wi-jun-jon, an Assiniboine Chief, going to Washington and returning home

**Brazil.***Rio Janeiro.*

- 1 Harbor of Rio Janeiro
- 2 Brazilian Packet—Vessel entering the Harbor
- 3 Palms in the Botanical Gardens
- 4 Botanical Garden—Entrance
- 5 Avenue of Palms
- 6 Corcovado (Broken Back)
- 7 Avenue of Palms and Corcovado
- 8 A Tropical Bit—Botanical Gardens
- 9 Looking through Palms toward the Corcovado
- 10 A view in the Botanical Gardens
- 11 Tropical Shrubbery, Botanical Gardens
- 12 Picturesque view of Rio Janeiro
- 13 Fernando de Noronha—Brazilian Convict Settlement
- 14 Fernando de Noronha—Brazilian Convict Settlement.
- 15 Fernando de Noronha—Brazilian Convict Settlement. (Drawing.)

**Bahia.**

- 16 Plaza del Customs
- 17 Rue de Commerce
- 18 Church of Bomfim
- 19 Ocean Tramps
- 20 View toward San Antonio—Light House
- 21 Harbor view, north
- 22 Harbor view, south
- 23 Instantaneous view in the Bay of All Saints

**Pernambuco.**

- 24 View in the Harbor
- 25 Panorama of the Harbor

**Uruguay.**

- 1 Foundling Hospital—Montevideo
- 2 Patio Hotel de la Paix—Montevideo
- 3 Panaders, a Baker delivering Bread—Montevideo

**Patagonia.**

- 1 Magnetic Recording, Camp Brooklyn.
- 2 Photographic House, Camp Brooklyn.
- 3 Transit of Venus Expedition, Camp Brooklyn.
- 4 General view of the Camp—Camp Brooklyn

- 5 Photographer's Tent—Interior
- 6 The Transit of Venus at Camp Brooklyn, June, 1882
- 7 The Santa Cruz River
- 8 Bluffs at the Mouth of Santa Cruz River
- 9 Keel Point—Santa Cruz River—Beagle beached here, bottom cleaned.
- 10 Rocky Coast, Mouth of the Santa Cruz River.

# Africa.

## Algeria

- 1 The Harbor of Algiers
- 2 Instantaneous View—Algiers
- 3 Panorama of Oran, North Side
- 4 Oran, the Harbor
- 5 " toward the Forts
- 6 Interior of Mosque at Tlemcen
- 7 Panorama of Tlemcen
- 8 Tlemcen, Type of Negro
- 9 " Dealer in Old Iron
- 10 Tlemcen Caravan
- 11 " Yard of Mauresque House
- 12 Tlemcen Musicians of Morocco
- 13 View of Algiers from Light-house
- 14 View of Algiers, Government Square
- 15 View of Algiers, Harbor and Town
- 16 View of Algiers, Panorama, from Kasbah
- 17 Avenue of the Republic
- 18 Arab Market
- 19 Algiers—The Cathedral
- 20 " Interior of Palace of Government
- 21 Algiers—Court-yard of Museum
- 22 Algiers—Avenue of Palms, Gardens of Essai
- 23 Blidah, General view of
- 24 " The Church
- 25 " Arab Cemetery
- 26 " Marabout in the Sacred Wood
- 27 Blidah, Mauresque Types
- 28 Panorama of Tangier, Morocco
- 29 Gallery in the Governor's Palace.

## Oran.

- 30 General View of Oran
- 31 Panorama of the Port of Oran
- 32 Court of the Mosque Der Pasha
- 33 Oran from the Mosque

## Constantine.

- 34 On the road to Constantine
- 35 General view of Constantine
- 36 Natural Bridge at Constantine

## South Africa.

- 37 Cape Town, Clifton House; Hotel near the Kloof.
- 38 Huge Boulder, on the way to Kloof.
- 39 A Group of Kaffirs.
- 40 " "
- 41 Kaffir Women Carrying Wood.
- 42 Kaffir Women.
- 43 A Kaffir Village.

## Madagascar.

- 44 Caravan Route to Emyrne.

## The Azores.

- 45 Horta Fayal.
- 46 Street Scene, Horta Fayal.

## Cape Town.

- 47 Upper Lighthouse
- 48 The Docks
- 49 U. S. S. Swatara in the Docks
- 50 U. S. S. Swatara Refitting
- 51 Cape Town from the Chinese Cemetery
- 52 The Lion Head
- 53 Cape Town and Table Bay, Panoramic, No. 1
- 54 Cape Town and Devil's Peak, Panoramic No. 2
- 55 Cape Town and Table Mountain, Panoramic, No. 3
- 56 Cape Town and the Kloof, Panoramic, No. 4
- 57 Clifton Cottage and Lion Peak
- 58 Mullie Point Lighthouse
- 59 The Lion's Head, Profile
- 60 Roundhouse Hotel in the Kloof

## Java.

- 1 King of Solo, a Javeneze Prince
- 2 Wife of the King of Solo
- 3 Prince of Solo
- 4 Soldier of Solo
- 5 Fruits of Java
- 6 Road near Bultenzorg
- 7 River below the Hotel—Bultenzorg
- 8 Rice Fields
- 9 Cocoa Tree and Fruit
- 10 Top of a Coconut Palm
- 11 Roots of India Rubber Tree, which are tapped for Gum
- 12 Coffee Bush and Berries
- 13 A Changung Station on the Road to Bultenzorg
- 14 Results of an Earthquake
- 15 Javanese Bathing, Common River View
- 16 Malay Dance
- 17 Ancient Ruins at Barboda

## India.

- 1 The City of Benares with Ghats
- 2 The Burning Ghats—Benares
- 3 Rajah Amethl's Temple—Benares

- 4 Sumaree Temple—Benares
- 5 Sumaree Temple, Carvings—Benares
- 6 Temple at the Manikarnika Ghat—Benares
- 7 The Residency—Lucknow
- 8 Tomb at Lucknow
- 9 Agra, Gate of the Taj, Near View
- 10 Agra, Gate of the Taj, Distant View
- 11 The Taj at Agra
- 12 Interior of the Taj Tomb—Agra
- 13 The Secundra, Near View—Agra.
- 14 The Secundra, Distant View—Agra
- 15 The Fort, Exterior—Agra
- 16 The Fort, Interior—Agra
- 17 Interior of the Motee Masjid—Agra
- 18 Delhi, Reading the Koran in the Great Mosque on Friday
- 19 Great Gate Fort Attack—Punjaub
- 20 Syadpoor, near Rawul Pundee
- 21 Soonder Temple—Nassick
- 22 Rock of Triconoply
- 23 Mehavellipore, Solid Granite Temple
- 24 Carved Rock Temple—Mehavellipore
- 25 Rock Carvings—Mehavellipore
- 26 Granite Rocks from the North—Mehavellipore
- 27 Verandah Cut in the Granite Rocks—Mehavellipore
- 28 Granite Rocks and Temple—Mehavellipore
- 29 The Cracked Monolithic Temple—Mehavellipore
- 30 Carvings on the Face of Rocks—Mehavellipore
- 31 The Pagoda—Mehavellipore
- 32 First and Second Carved Rock Temples—Mehavellipore
- 33 Rock Temple—Mehavellipore
- 34 Boorhaupore, a Worshipping Masjid
- 35 Hoshungahad, Ruins of the Fort
- 36 The Bathing Ghat with Temples
- 37 Jubbulpore, the Maddun Mehal
- 38 Marble Rocks—Jubbulpore
- 39 Bellary, General View, near Jubbulpore
- 40 Curious Fort, Bellary—Jubbulpore
- 41 A Water Tank—Bombay
- 42 Caves of Ellora, Exterior—Bombay
- 43 Caves of Ellora, Interior—Bombay
- 44 Lahore, Baradari and Gate of the Great Mosque of Lahore
- 45 Amber, General View of Fort and Palace (a deserted city)
- 46 Gate of the Palace—Amber

- 47 Room in the Palace—Amber
- 48 A Tank near Amber
- 49 Tirupetty, the Temple
- 50 The Pagoda—Tirupetty
- 51 Ajunta, the Caves, General View
- 52 Interior of Cave No. 19—Ajunta
- 53 Interior of Cave No. 26—Ajunta
- 54 Oudypore, Temple of Jugernaut.
- 55 Oudypore, Maha Suttie.
- 56 Abou, Dilwarrah Jain Temple.
- 57 Abou, Jain Temple, Interior.
- 58 Abou, Temple and Tank.
- 59 Mt. Abou, Achaigush Agul Koond.
- 60 Ragnugger, the Marble Ban.
- 61 Akbar, Marble Palace.
- 62 Purchmaree, Curious Stone, said to be a load carried by the god Mahedo.
- 63 Mandhatta, Carved Elephants, forming the base of the Jain Temple.
- 64 Muree Hills, near Goradakha.
- 65 Muree Hills, Bridge over the Durwaji Khao Ravine

#### Island of Ceylon.

- 1 Railway Scenery—Colombo to Kandy.
- 2 Railway Scenery—The Lion's Mouth.
- 3 The Lake and Drive, with Cabbage Palms—Kandy.
- 4 A Stylish Rig—Colombo.
- 5 Annual Buddhist Festival.
- 6 Native Hut near Colombo.
- 7 Interior of a Buddhist Temple—Kandy.
- 8 Veddahs, or Wild Men of Ceylon.
- 9 Paddy Fields.
- 10 Coffee Estate, Bungalow.

#### South Indian Ocean.

- 1 Kerguelan Land. Royal Sound.
- 2 Kerguelan Land. Sunset Boat.
- 3 Christmas Harbor, Kerguelan, South Indian Ocean.
- 4 Royal Sound, Kerguelan, South Indian Ocean.
- 5 Possession Island, Crozet Group.
- 6 East Island, Crozet Group
- 7 Navigator's Island, South Pacific Ocean.

#### South Pacific Ocean.

##### Tasmania.

- 1 Hobart Town from Observatory.
- 2 Hobart Town from Venus Hill.
- 3 The Sleeping Maiden, Hobart Town.
- 4 Monument to Sir John Franklin, Hobart Town.

- 5 Interior of Museum, Hobart Town, Kangaroo.
- 6 Interior of Museum, Hobart Town, the Moa.
- 7 Interior of Museum, Hobart Town, Skeleton of a Killer Whale.
- 8 The Haon Road up Mt. Wellington.
- 9 Tasmanian Forest, with Ferns.
- 10 Fern Tree Bower, Mt. Wellington
- 11 Cook's Monument at the Bower
- 12 Tasmanian Forest.
- 13 Fern Grove.

##### Ware Kauri or Chatham Islands.

- 14 View of Whangaroa Bay.
- 15 Wreck of the American Whaler, Alabama.
- 16 Maunganui (Big Mountain.)
- 17 Maunganui, Big Side View
- 18 Cabin Built by the Wrecked Crew of the Whaler Alabama.
- 19 Mr. Engst, a Moravian Missionary.
- 20 A Squatter and his family
- 21 House of the Missionary, Maunganui.
- 22 A Sheep Ranch, with Native Shepherds.
- 23 A Picturesque View of Whangaroa.
- 24 Old Bill Tennent and his Maori Wife.
- 25 Pumipi, a Native Maorian
- 26 Old Bill Tennent, a Wrecked American Whaler.
- 27 A Rocky Shore, Showing the Location of the Transit of Venus Expedition.
- 28 A view Toward Mt. Dieffenbach.
- 29 Building the Piles for the Observing Instruments.
- 30 Mounting the Water Barrels in Photo House.
- 31 Equatorial Telescope and Building.
- 32 The Transit House and Instruments.
- 33 Lateral View of the Observatory.
- 34 The Transit Heliostat and Objective.
- 35 Transit and Photo Houses
- 36 Zenith Telescopic Observations.
- 37 Finding the True and Magnetic North.
- 38 Making Measurements with the Micrometer.
- 39 Horizontal Dip (Magnetic)
- 40 Surveying Whangaroa Bay
- 41 Camp Venus and Whangaroa Bay, from Venus Hill.
- 42 The Scientific Party at Work.
- 43 The Transit of Venus (Last Contact).
- 44 Skulls of Moriori (Aborigines), and a Maori, devourer of Moriori.
- 45 Our Boy Woods. A Blue-jacket.

- 46 Our Pilot from Cape Town
- 47 Joe and Tony, our Cook and Steward.
- 48 The Magellan Cloud, Our Mail Boat.
- 49 The Scientific Party. Transit of Venus Observers.

#### England.

Plain, per Slide, 50 cents.  
Colored, \$1.50.

- 1 St. Paul's Cathedral, Interior.
- 2 Chamber in Tower of London.
- 3 Buckingham Palace.
- 4 Room in Buckingham Palace.
- 5 Tombs in Westminster Abbey.
- 6 Lord Mayor's Residence.
- 7 Column of the Duke of York.
- 8 Statue of Wellington.
- 9 Waterloo Place.
- 10 Greenwich Observatory.
- 11 Greenwich Hospital.
- 12 Temple Bar.
- 13 Crystal Palace, Sydenham Park.
- 14 Pall Mall on Drawing-room Day.
- 15 The National Gallery.
- 16 Windsor Castle.
- 17 Entrance to Windsor Castle.
- 18 Saloon in Windsor Castle.
- 19 Eton College.
- 20 Salisbury Cathedral.

#### London.

- 21 Newgate and Old Bailey.
- 22 The Tower and Thames Shipping.
- 23 Old Door, All Hallows Church.
- 24 The Thames, Cannon Street Station and Bridge
- 25 Crystal Palace, In the Grounds.
- 26 Crystal Palace, Outside.
- 27 Crystal Palace, Interior.
- 28 Hampton Court Palace, Southeast.
- 29 Hampton Court Palace, East.
- 30 Kensington Palace.
- 31 The Tower of London.
- 32 White Tower, from Southwest.
- 33 Spurgeon's Tabernacle.
- 34 Ludgate Hill and St. Paul's.
- 35 St. Paul's from near Blackfriars.
- 36 The Monument.
- 37 Holy Trinity Church.
- 38 Old Pulpit—Holy Trinity Church.
- 38½ Dartmouth Washington Tablets.
- 39 Wall in which are the Dartmouth Washington Tablets.
- 40 Head of the Duke of Suffolk.
- 41 Christ Church, Hospital and School.
- 42 St. Bartholomew's the Great.



- 43 Panorama from Top of Church.
- 44 Southwark Bridge.
- 45 Blackfriars.
- 46 Lyceum Theater.
- 47 Convent Garden Theater.
- 48 Bow Street Police Court.
- 49 Somerset House.
- 50 End of Somerset House.
- 51 Somerset House and Thames Embankment.
- 52 Thames Embankment and Cleopatra's Needle.
- 53 Thames Embankment from Waterloo Bridge.
- 54 Smithfield Market.
- 55 Guildhall.
- 56 Holy Trinity Church Nunneries.
- 57 Detail Albert Memorial.
- 58 Albert Memorial.
- 59 Albert Hall and Memorial.
- 60 Westminster Abbey, Front View.
- 61 Westminster Abbey, Side View.
- 62 Claxton's Window, Westminster Abbey.
- 63 Entrance to Cloisters, Westminster Abbey.
- 64 Interior, Westminster Abbey.
- 65 Nave, Westminster Abbey.
- 66 Choir, Westminster Abbey.
- 67 Pall Mall, Westminster Abbey.
- 68 Trafalgar Square.
- 69 Coffee Stand.
- 70 Foreign Office.
- 71 St. James' Park.
- 72 May Day Sweeps.
- 73 Blind Beggar Reading on Waterloo Bridge.
- 74 Sir Frederick Leighton's Hall.
- 75 Sir Frederick Leighton's Studio.
- 76 Millais' Studio.
- 77 Bunhill Fields, Tomb of John Bunyan.
- 78 Bunhill Fields, Tomb of Richard Cromwell.
- 79 Bunhill Fields, Tomb of Dr. Watts.
- 80 Bunhill Fields, Tomb of Dame Page.

#### Old London.

- 81 On Market, Cross and East Gateway.
- 82 On Market, Cross and Church Tower.
- 83 On Market, Cross and East Gateway.
- 84 Hosier Lane.
- 85 Staples Inn.

#### British Museum.

- 86 Entrance, British Museum.
- 87 Among the Columns and the Eastern Island Gods.
- 88 In First Græco-Roman Room.
- 89 Roman Room, Vestibule, East of Egyptian Gallery.
- 90 Statues Against Wall Græco-Roman Room.
- 91 Egyptian Gallery.
- 92 Egyptian Gallery, Rear End.

- 93 Venus Aphrodite, Vestibule Third Græco-Roman Room.
- 94 Third Græco-Roman Room.
- 95 Looking into Assyrian Transept.
- 96 End of Assyrian Transept.
- 97 Ephesian Room.
- 98 Hellenic Room.
- 99 Winged Bull from Nineveh.
- 100 Winged Bulls—Door of Nimrod Gallery.
- 101 Hittite Inscriptions.
- 102 Mausoleum, Third and Fourth Century.
- 103 Greenville Library.
- 104 King George Library.
- 105 Manuscript Room.
- 106 Reading-Room.
- 107 Head of Ramesses II.
- 108 Grand Staircase.
- 109 First Vase Room.
- 110 Cleopatra's Coffin, Mummy Room.
- 111 Mummy Room.
- 112 Mummy Room, Showing Inside of Coffin.
- 113 Etruscan Sepulchral Monuments.
- 114 Terra-Cotta Sarcophagus.
- 115 Assyrian Detties.
- 116 Assur-Bani Pal, Hunting Lions, Basement.
- 117 Paralyzed Lion.
- 118 Building of Sennacherib's Palace at Konjunktur.
- 119 Old Carthaginian Room.
- 120 Græco-Roman Basement.

#### South Kensington Museum.

- 121 Museum, Whale Room.
- 122 Arch in Hall under Staircase.
- 123 Statue of Darwin.
- 124 The Bird Gallery.
- 125 In the Coral Gallery.
- 126 Reptile Gallery.
- 127 Fish Gallery from Sponge Gallery.
- 128 Gallery of British Zoology.
- 129 Stuffed Mammals.
- 130 Fossil Mammalia Gallery.
- 131 Mineral Gallery.
- 132 Meteorites.
- 133 Sun Fish.
- 134 Elephants.
- 135 Giraffe Room.
- 136 Bird Corridor.
- 137 Nest of Great Titmouse in Bird Corridor.
- 138 Staircase.
- 139 Mammal Skeletons.
- 140 Mammal Skeletons.
- 141 Art Departments, Exterior.
- 142 Looking into the Architect, Court from Iron Work Gallery.
- 143 Architect's Court.
- 144 Plaster Cast Court.
- 145 Indian Department.
- 146 Friends of Stone House at Suldenkshak.
- 147 Indian Goldsmith, Carpenter and Designer.
- 148 A Bodhisatwa Sacred Being Designed to be a Buddha.
- 149 H. M. State Barge.

#### Windsor Castle.

- 150 Windsor Castle.
- 151 Grand Entrance, Windsor Castle.
- 152 Grand Entrance, Near View, Windsor Castle.
- 153 North Front, Windsor Castle.
- 154 Southeast Front, Windsor Castle.
- 155 Statue of Charles II.
- 156 St. George's Chapel.
- 157 The Round Tower.
- 158 Queen's Apartment and Long Walk.
- 159 Queen's Apartment and Long Walk.
- 160 Henry the Eighth Gate.
- 161 Windsor Castle from the Meadows.
- 162 Windsor Castle from the River.
- 163 S. W. R. Station, Windsor and Round Tower.
- 164 Windsor, from Eton, with Bridge.
- 165 Windsor Castle, Park Street.

#### Isle of Wight.

- 166 Off Cowes.
- 167 Street in Cowes.
- 168 Yachts Aground.
- 169 Floating Bridge.
- 170 The Queen's Landing Place.
- 171 Norris Castle.
- 172 Whippingham Church.
- 173 Whippingham Queen's Almshouse.
- 174 Ancient Parsonage—Woolton.
- 175 Norman Door, Woolton Church.
- 176 The Gardeners Cottage, Woolton.
- 177 Quarr Abbey.
- 178 Old Gateway, Binstead Church.
- 179 The Fount.
- 180 The Pulpit.
- 181 The Pier at Ryde.
- 182 The Esplanade—Ryde.
- 183 Union Street.
- 184 Apply Watch Tower—Ryde.
- 185 Apply House.
- 186 Apply Towers.
- 187 The Priory.
- 188 St. Helen's Tower.
- 189 Bembridge and Harbor.
- 190 Brading Village.
- 191 Brading Church.
- 192 Brading Church, Oglander Mortuary Chapel.
- 193 Brading, Little James Cottage.
- 194 Leigh Richmond's Church—Yaverlands.
- 195 Door at Church—Yaverlands.
- 196 Manor House—Yaverlands.
- 197 Cottage and Lane—Yaverlands.
- 198 Lane—Yaverlands.
- 199 Culver Cliffs.
- 200 Farmhouse near Sandown.
- 201 Sandown.
- 202 Arreton Church.

- 203 Cottage Garden at Arretton  
 204 Grave of Dairymen's Daughter.  
 205 Arretton Village.  
 206 Arretton—Old Manor House.  
 207 Sandown From Fort.  
 208 Blackberry Lane—Sandown.  
 209 Lane near Sandown.  
 210 Shanklin from Cliffs.  
 211 Bridge on the Chine—Shanklin.  
 212 The Chine from Shore.  
 213 The Fall—Shanklin.  
 214 Old Village—Shanklin.  
 215 Bold Cliffs near Shanklin.  
 216 On the Sands (Reflection)—Shanklin.  
 217 Luccombe Chine.  
 218 Luccombe Chine.  
 219 Fisher's Cottage—Luccombe Chine.  
 220 The Landslip.  
 221 The Landslip.  
 222 St. Boniface Church—Bonchurch.  
 223 Old Tombs, St. Boniface Church.  
 224 The Pond at Bonchurch.  
 225 Ventnor.  
 226 Ventnor Station.  
 227 Appuldur Combe.  
 228 Steephill Castle.  
 229 Undercliffe.  
 230 End of Undercliffe.  
 231 Going Down Blackgang Chine.  
 232 Blackgang Chine from the Shore.  
 233 Blackgang Chine from the Shore.  
 234 Freshwater Bay.  
 235 Tennyson's Home—Farringford.  
 236 Lane at Farringford.  
 237 Rocky Cliff at Freshwater Bay.  
 238 General View at Freshwater Bay.  
 239 Arched Rocks—Freshwater Bay.  
 240 Arched Rocks—Freshwater Bay.  
 241 Arched Rocks—Freshwater Bay.  
 242 Mottestone Church.  
 243 Mottestone Manor House.  
 244 Shorewell.  
 245 Road to the Needles.  
 246 The Needles.  
 247 Alumn Bay.  
 248 From Hotel Toward Needles—Alumn Bay.  
 249 Colored Cliffs—Alumn Bay.  
 250 Totland Bay.  
 251 Pulpit, Newport Church.  
 252 Princess Elizabeth's Tomb.  
 253 Carishrooke Castle, Entrance Gate.  
 254 Carishrooke Castle, Entrance Gate.  
 255 Doorway or Entrance Towers, Carishrooke Castle.  
 256 Inner Moat, Carishrooke Castle.  
 257 Ivy-Clad Walls, Carishrooke Castle.  
 258 Keeper's Residence and Well-House, Carishrooke Castle.  
 259 The Keep, Carishrooke Castle.  
 260 The Steps to the Keep, Carishrooke Castle.  
 261 Ruins of St. Nicholas Chapel, Carishrooke Castle.  
 262 Apartments of Princess Elizabeth, Carishrooke Castle.  
 263 Carishrooke Village, seen through the Ramparts of Castle.  
 264 Harvest Scene.  
 265 Osborne House, Isle of Wight.  
 266 Corridor of the Osborne House.  
 267 View of Cowes.  
 268 Carishrooke Castle, Isle of Wight.
- Miscellaneous—England.*
- 269 Town Hall—Liverpool.  
 270 Wellington Monument—Liverpool.  
 271 Lime Street, Looking South.  
 272 Dale Street.  
 273 St. George's Hall.  
 274 Prince's Dock.  
 275 Holyrood Castle.  
 276 Chapel Royal, Holyrood Castle.  
 277 Great Door, Holyrood Castle.  
 278 Queen Mary's Bed-Room, Holyrood Castle.  
 279 Rochester.  
 280 Rochester, from Strood.  
 281 Workman's Club—Rochester.  
 282 Old Gateway, Rochester.  
 283 Rochester Castle.  
 284 Rochester Cathedral.  
 285 Old Gateway—Rochester Cathedral.  
 286 Door and Chapter House.  
 287 Gorman Door and Old Street.  
 288 Elevation of Norman Door.  
 289 Interior—Rochester Cathedral.  
 290 Sanctuary—Rochester Cathedral.  
 291 Norman Arches—Rochester Cathedral.  
 292 Wells Cathedral.  
 293 Salisbury Cathedral.  
 294 Wimborn Minster, Side View.  
 295 Wimborn Minster, Entrance.  
 296 Fountains Abbey, from River.  
 297 Tintern Abbey, Interior.  
 298 Netley Abbey, the East Window.  
 299 St. Mary's Abbey—York.  
 300 Berry Pomeroy Castle.  
 301 Berry Pomeroy Castle, the Guard Room.  
 302 Lancaster Castle.  
 303 Interior of Lancaster Castle.  
 304 Roman Altar, Lancaster Castle.  
 305 Branding Hand.  
 306 Kenilworth Castle.  
 307 Leicester Buildings, Kenilworth Castle.  
 308 Ham Cross and Fountain—Derbyshire.  
 309 Ham Church.  
 310 Ham Church, David Pike Watt's Monument.  
 311 Ham Rock, Dovedale—Derbyshire.  
 312 Lion Rock, Dovedale—Derbyshire.  
 313 Dove Holes—Dovedale, Derbyshire.  
 314 Pickering Tars—Derbyshire.  
 315 Reynard's Cave—Derbyshire.  
 316 Sissington Church.  
 317 Ormorton Manor.  
 318 Matlock Bath.  
 319 Newby Bridge and Swan Inn.  
 320 Newby Bridge.  
 321 Station at Lakeside.  
 322 Bowness, from Boat.  
 323 Waterhead, Windermere Lake.  
 324 On Road from Waterhead to Ambleside.  
 325 Old Mill Stream—Ambleside.  
 326 Queer Lane—near Ambleside.  
 327 Stock Ghyll Force—near Ambleside.  
 328 Near the Foot of Stock Ghyll Force.  
 329 A Peep on the Stock Ghyll Force.  
 330 Foot of Windermere.  
 331 Borrowdale Valley.  
 332 Head of Buttermere Lake.  
 333 Study of Ragweed on Wallsell Side.  
 334 Derwentwater and Friar's Crag.  
 335 At Betham.  
 336 Betham Village.  
 337 Mill at Gill Banks—near Eskdale.  
 338 View from the Church Tower—Wickham.  
 339 On the Dart—Holmes from the River.  
 340 On the Dart—Sharpam.  
 341 Source of the River Brent.  
 342 On the River Wey, Elstead—Surrey.  
 343 The Thames at Isleworth.  
 344 The Thames at Roulter's Lock.  
 345 View from the Richmond Bridge.  
 346 Oxford, General View.  
 347 Oxford—Pembroke Street.  
 348 Hadden Hall, from the Terrace.  
 349 Thatched Cottage—Southport.  
 350 A Kentish Lane, West Orpington—Kent.  
 351 Shade in Epping Forest.  
 352 English Farm-Yard Scene.  
 353 Yew Tree at Selborne.  
 354 Southampton.  
 355 The Bar Gate—Southampton.  
 356 Steamer at Southampton.  
 357 St. Michael's Mount—Penzance.  
 358 The Docks, Liverpool.

*London.*

- 359 Westminster Abbey, West Front  
360 Westminster Abbey, Coronation Chair  
361 House of Lords (Interior)  
362 Thames Embankment  
363 Horse Guards  
364 Bank of England  
365 London Bridge  
366 On the Strand  
367 Tower of London  
368 Tower of London (the White Tower)  
369 Tower of London (Site of the Scaffold)  
370 Hampton Court Palace  
371 Westminster Tower and Bridge  
372 Westminster Thames Embankment  
373 Trafalgar Square, Nelson Monument  
374 Egyptian Obelisk, Thames Embankment  
375 River Thames, from Lambeth Terrace  
376 Pall Mall, Waterloo Place  
377 Piccadilly  
378 The Temple Bar Memorial  
379 Crimea Monument  
380 Waterloo Bridge  
381 On London Bridge  
382 St. Paul's from the Thames  
383 St. Paul's from South-west

*Windsor.*

- 384 The Home Park  
385 The Royal Park  
386 Windsor Castle and Royal Park  
387 Windsor Castle and Royal Park  
388 View of Eton and the Weir  
389 Southdown Sheep, at Eton  
390 Eton College, across the Weir  
391 Rural View of Eton  
392 Eton College

*Oxford.*

- 393 Christ Church College  
394 Christ Church College Tower  
395 St. Aldate's Church  
396 The River Isis  
397 Lincoln College  
398 Balliol College  
399 Pembroke College  
400 Jesus College  
401 Exeter College  
402 All Saints Church  
403 Exeter College  
404 Bodleian Library  
405 All Souls College  
406 Oriel College  
407 Clarendon Building

*Stratford-on-Avon.*

- 408 Shakespeare's House  
409 The Church, Shakespeare's Burial-place  
410 The Church, Shakespeare's Burial-place

- 411 The Avon and Shakespeare Memorial  
412 Across the Avon  
413 The Banks of the Avon  
414 Shakespeare Memorial Building  
415 Red Lion Inn  
416 Guild Chapel  
417 Groups of Cattle on the Banks of Avon  
418 Cattle Waiting at the Gate  
419 Group of Cattle  
420 Group of Cattle  
421 Picturesque Group of Cattle  
422 Grave of Shakespeare  
423 Shakespeare Monument  
424 Horses Grazing

*Warwick.*

- 425 Warwick Castle  
426 A Street in Warwick; Timbered Houses  
427 Warwick Arms  
428 St. Mary's Church  
429 Warwick Castle  
430 Warwick Castle, Armor Hall  
431 Warwick Castle, Banqueting Hall  
432 Warwick Castle, from the Bridge

*Kenilworth.*

- 433 Ruins of Kenilworth Castle  
434 Ruins of Kenilworth Castle  
435 Ruins of Banqueting Hall  
436 Ruins of Kenilworth Castle  
437 Kenilworth Castle, from the Bridge  
438 St. George's Hall, Liverpool  
439 The Inn at Aweton  
440 Residence, Salisbury Close  
441 In Carrisbrooke Castle  
442 Rievaulx Abbey, from the Southeast  
443 Exeter Cathedral (Interior)  
444 Stonehenge

*Wales.*

- 445 Waterloo Hotel, Bettwys y Coed  
446 Chapel at Bettwys y Coed  
447 Pont y Pair at Bettwys y Coed  
448 Pont y Pair at Bettwys y Coed  
449 Pont y Pair, close view, Bettwys y Coed  
450 Dolyddellab Castle  
451 Danyon eyes Castle  
452 Conway Castle and Bridge

*Scotland.*

- 453 Panorama of Edinburgh, Scotland  
454 Princes Street, Edinburgh  
455 Monument to Sir Walter Scott  
456 Monument to Dugald Stewart  
457 Holyrood Palace, exterior  
458 Holyrood Palace, interior

- 459 Balmoral Castle  
460 Balmoral Castle and Valley  
461 Melrose Abbey  
462 Loch Lomond  
463 Loch Katrine  
464 Trossachs Hotel  
465 Edinburgh Castle, from St. Cuthbert's Church Yard  
466 Edinburgh Castle, from Prince's St. Gardens  
467 Entrance to Holyrood Palace, Edinburgh  
468 The Fountain at Holyrood Palace, Edinburgh  
469 The Tweed, Coldstream Bridge  
470 Abbotsford  
471 Dryburgh Abbey  
472 Edinburgh, from Craigmillar Castle  
473 Dumfries Cathedral  
474 Inverary Cathedral  
475 Bothwell Castle on the Clyde  
476 Port Glasgow  
477 Dunnotar Castle, near Stonehaven  
478 Alloway Kirk, with Burns' Monument  
479 Dundee  
480 Loch Lomond  
481 The Two Brigs, Ayr  
482 Bridge of Doon  
483 Holyrood Castle  
484 Cape Wrath  
485 Loch Katrine  
486 The Water of Lugar  
487 Melrose Abbey  
488 Burns' Mausoleum, Dumfries

*Ireland.*

- 1 Blarney Castle, Ireland  
2 Lakes of Killarney (15 Views)  
3 Kilkenny Castle  
4 Castle of Donegal  
5 Errigal Mountain  
6 Druid's Altar, in Giant's Ring, near Belfast  
7 Queen's College, Belfast  
8 Londonderry  
9 Giant's Causeway (12 Views)  
10 Dunluce Castle, County Antrim  
11 Coleraine, Co. Derry  
12 Obelisk in the Vale of the Boyne  
13 The Vale of Avoca, Co. Wicklow  
14 Victoria Castle and Killiney Bay  
15 Sackville Street, Dublin  
16 Dublin, Sackville Street  
17 Dublin, General Post Office  
18 Dublin, Grafton Street  
19 Dublin, St. Patrick's Cathedral  
20 Dublin, St. Patrick's Choir  
21 Dublin Castle  
22 Dublin Bank of Ireland  
23 Dublin, Trinity College  
24 Dublin, the Four Courts  
25 Dublin, the Custom House  
26 Dublin, Merion Square and Leinster Lawn

- |   |   |                                  |
|---|---|----------------------------------|
| 27 Dublin, Christ Church Cathedral              | 73 Spectacle Bridge, Co. Clare            | 11 The Rat Tower                 |
| 28 Dublin, Monument of O'Connell, Glasnevin     | 74 Cong Abbey, Co. Galway                 | 12 Mayence                       |
| 29 Dublin, Vice-regal Lodge, Phoenix Park       | 75 The Killerris Bay, Co. Galway          | 13 Gutenfels                     |
| 30 Ruins of St. Mary's Abbey, Co. Dublin        | 76 Ballynahinch Lake, Co. Galway          | 14 Cathedral at Bonn             |
| 31 Kingston Harbor, Co. Dublin                  | 77 Achill Sound, Co. Mayo                 | 15 Royal Palace, Berlin          |
| 32 Killiney Bay, Co. Dublin                     | 78 Rosserk Abbey, Co. Mayo                | 16 Throne Room, Royal Palace     |
| 33 Malahide Castle, " "                         | 79 Sligo Abbey, Co. Sligo                 | 17 Swiss Saloon, Royal Palace    |
| 34 Bray Head, Co. Wicklow                       | 80 Boyle Abbey, Co. Roscommon             | 18 Library, Royal Palace         |
| 35 Enniskerry, " "                              | 81 Boyne Viaduct, Co. Louth               | 19 Palace of the Prince Royal    |
| 36 The Scalp, " "                               | 82 Donegal Place, Belfast, Co. Antrim     | 20 Royal Museum, Berlin          |
| 37 Powerscourt Waterfall, Co. Wicklow           | 83 Albert Memorial, Belfast, Co. Antrim   | 21 Statue of the Amazon, Museum  |
| 38 Lover's Leap, Dargle, Co. Wicklow            | 84 Linen Hall, Belfast, Co. Antrim        | 22 Statue of Frederick the Great |
| 39 View in the Dargle, Co. Wicklow              | 85 Antrim Castle, Belfast, Co. Antrim     | 23 Theater Royal, Berlin         |
| 40 In the Valley of Clara, Co. Wicklow          | 86 Giant's Causeway, Belfast, Co. Antrim  | 24 Brandenburg Gate, Berlin      |
| 41 In the Vale of Avoca, Co. Wicklow            | 87 Giant's Causeway, the Loom             | 25 Panorama of Nuremberg         |
| 42 Lion Arch, Castle Howard, Co. Wicklow        | 88 Giant's Causeway, Chimneys             | 26 Treves on the Moselle         |
| 43 Wexford, from Ferry Bank, Co. Wexford        | 89 Giant's Causeway, Crown                | 27 Royal Palace, Potsdam         |
| 44 Johnstown Castle, Co. Wexford                | 90 Giant's Causeway, Honeycomb            | 28 The Old Palace, Potsdam       |
| 45 Kilkenny, Co. Kilkenny                       | 91 Giant's Causeway, Lord Antrim's Parlor | 29 Royal Palace, Dresden         |
| 46 Kilkenny Castle, Co. Kilkenny                | 92 Giant's Causeway, The Wishing Chair    | 30 Theater Royal, Dresden        |
| 47 Lisnore Castle, Co. Waterford                | 93 Giant's Causeway, the Keystone         | 31 Bridge at Dresden             |
| 48 Ruins of Cashel, Co. Tipperary               | 94 Giant's Causeway, the Ladies' Fan      | 32 Catholic Church at Dresden    |
| 49 Holycross Abbey, Co. Tipperary               | 95 Giant's Causeway, the Organ            | 33 Panorama of Salzburg Tyrol    |
| 50 Grand Parade, Cork Co., Cork                 | 96 Giant's Causeway, the Well             | 34 Frankfurt on the Main         |
| 51 St. Patrick's Bridge, Cork Co., Cork         | 97 Giant's Causeway, the Gateway          | 35 Baden-Baden                   |
| 52 South Mall, Cork Co., Cork                   | 98 Carrickfergus Castle                   | 36 Hamburg                       |
| 53 Shandon Church, Cork Co., Cork               | 99 Kenbane Castle                         |                                  |
| 54 Blarney Castle, County Cork                  | 100 The Giant's Causeway                  |                                  |
| 55 Blarney Castle from the Lake, Co. Cork       | 101 Londonderry                           |                                  |
| 56 Blarney Castle, the Peep Hole, Co. Cork      | 102 Abbey of Sligo                        |                                  |
| 57 Kissing the Blarney Stone, Co. Cork          | 103 Clew Bay from Westport                |                                  |
| 58 Queenstown, Co. Cork                         | 104 Garrovin Lake                         |                                  |
| 59 Cove of Cork, " "                            | 105 Ruins at Cashel                       |                                  |
| 60 Lakes of Killarney, Co. Killarney            | 106 Kilkenny Castle                       |                                  |
| 61 Muckross Abbey, Co. Killarney                | 107 Dunluce Castle                        |                                  |
| 62 Glenna Bay, Co. Killarney                    | 108 Glengariff Inn                        |                                  |
| 63 Meeting of the Waters, Co. Killarney         | 109 Innisfallen, Lake of Killarney        |                                  |
| 64 Middle Lake and Terc Mountain, Co. Killarney | 110 Upper Lake of Killarney               |                                  |
| 65 Eagle's Nest, Co. Killarney                  | 111 Old Weir Bridge, Killarney            |                                  |
| 66 The Upper Lake, Co. Killarney                | 112 Lower and Torc Lakes, Killarney       |                                  |
| 67 The Lower Lake, Co. Killarney                | 113 Cove Harbor, Queens-town              |                                  |
| 68 Suspension Bridge, Kenmare, Co. Kerry        | 114 Kilkee, Co. Clare                     |                                  |
| 69 King John's Castle, Co. Limerick             | 115 Ballyhinch Lake                       |                                  |
| 70 Treaty Stone, Co. Limerick                   | 116 Dublin Bay                            |                                  |
| 71 Rapids of the Shannon, Co. Limerick          | 117 Carrigogunnell Castle, Limerick       |                                  |
| 72 Natural Bridge, Kilkee, Co. Clare            |   |                                  |

## Germany.

- 1 Castel of Stolzenfels on Rhine
- 2 Castle of Ehrenfels
- 3 " Rhinefels
- 4 " Heidelberg
- 5 Fortress Ehrenbreitstein
- 6 Castle of Schoenburg
- 7 Panorama of Coblenz
- 8 Bridge at Cologne
- 9 Cathedral of Cologne
- 10 Bingen on the Rhine

## France.

## Paris.

- 1 Elevated View of Arch de Triomphe.
- 2 Arch de Triomphe, Near View.
- 3 Arch de Triomphe, Perspective.
- 4 Instantaneous View, Champs Elysees.
- 5 Perspective View Avenue Bois de Boulogne.
- 6 Instantaneous View Avenue de la Opera.
- 7 Street Life in front of the Grand Opera House.
- 8 Foyer of the Grand Opera House.
- 9 Grand Stairway—Grand Opera House.
- 10 Panoramas of the Seven Bridges of Paris.
- 11 Church of the Madeleine.
- 12 Church of the Madeleine, Interior.
- 13 Grand Hotel.
- 14 Arch of Carrousel.
- 15 Notre Dame Cathedral.
- 16 Notre Dame Cathedral, Detail View.
- 17 The Tomb of Napoleon.
- 18 Ruins of the Chateau St. Cloud.
- 19 Palace of the Tuilleries.
- 20 Tower of St. Germain.
- 21 Concert Garden Entrance—Champs Elysees.
- 22 Chateau de l'Etoile.
- 23 Interior of the Church of St. Etienne du Mont.
- 24 Gallery of Apollo in the Louvre.
- 25 The Immaculate Conception, by Murillo.
- 26 Madame Le Barne and Her Daughter.
- 27 St. Monica and Augustin.

- 28 Crypt of the Church of St. Chapelle.  
29 Hotel de Ville.  
30 Column of Juillet.  
31 Buttes—Chemouns.

*Versailles.*

- 32 The Carriage of Napoleon  
33 The Bed of Napoleon.  
34 House of Marie Antoinette  
35 Bed of Marie Antoinette.  
36 The Dairy.  
37 Fountain and Lake.  
38 General View of the Park.  
39 Fountain of Neptune.  
40 The Bed of Louis Philippe

*France—Miscellaneous.*

- 41 Interior of Church of Eglise St. Ouen—Rouen.  
42 Picturesque Church Building in Chalk near Rouen  
43 Cathedral of Amiens.  
44 Cathedral of Amiens, Statue of the Virgin.  
45 Cathedral of Chartres.  
46 Cathedral of Eglise St. Pierre—Caen.  
47 Arched Stone Bridge over the Seine near Rouen.  
48 A Roadside Spring.  
49 Bird's-Eye View of Sens.  
50 Market Day in Sens.  
51 Market Day, Job Lots—Sens.  
52 Vineyards and Chalk Cliffs  
53 Entrance to Chalk Mines.  
54 Interior of Chalk Mines.  
55 " " "  
56 Looking out of the Chalk Mines.  
57 The Cathedral of Sens.  
58 Interior of the Cathedral.  
59 Details of Large Door.  
60 Iron Gates and Details of Side Door.  
61 The Guide to the Cathedral.  
62 Recent Addition to the Cathedral.  
63 Street Scene in Sens.  
64 House of Jean Cusa.  
65 Stone Arched Bridge—Yonne River.  
66 A Bit of the Canal near Sens.  
67 A Picturesque French Gateway at Sens.  
68 Cathedral at Sens.  
69 West Gateway at Sens.  
70 Picturesque Stone Bridge by the Wayside.  
71 A Bit of Dole—Jura.  
72 Bridge and Cathedral—Dole.  
73 Drinking Font—Dole.  
74 A French Policeman—Dole.  
75 Wash-Day on the Loire near Dijon.  
76 A Bit of the Loire near Dijon.  
77 Hotel de l'Ecu—Montbard  
78 Picturesque Stone Bridge with Cross.  
79 The Monastery of Montbard.  
80 The Monastery, Distant View.

- 81 Cottages, near Avranches  
82 Panorama of Toulon  
83 Fontainebleau, Yard of the Farewell  
84 Fontainebleau, the Grand Staircase  
85 Panorama of Nice  
86 " "  
87 Hall of the Chevalliers, at Mount St. Michael

*Paris.*

- 88 Avenue de l'Opera (instantaneous)  
89 Avenue de l'Opera, Opera House  
90 Towards Palais Royal  
91 Place de la Concorde  
92 " " "  
93 " " " Obelisk  
94 The Madeleine  
95 " " (instantaneous)  
96 " " "  
97 Column and Place Vendome  
98 Champs Elysees and Arc de Triomphe  
99 Champs Elysees and Arc de Triomphe  
100 Arc de Triomphe  
101 " " Bas-relief, Victory  
102 Arc de Triomphe, Bas-relief, Coronation Napoleon  
103 Hotel des Invalides  
104 Palace of Industry (instantaneous), from the Seine  
105 Chamber of Deputies  
106 Palace of Justice  
107 Hotel de Ville  
108 Institute of Art  
109 Fountain of St Michael  
110 Notre Dame, Main Entrance  
111 Notre Dame, Cathedral  
112 The Pantheon  
113 Arc du Carrousel  
114 Tuilleries  
115 Porte de Carrousel  
116 Hotel des Invalides, Interior of Church  
117 Hotel des Invalides, Tomb of Napoleon  
118 Hotel des Invalides, Sarcophagus  
119 Column of July  
120 Avenue of the Champs Elysees (instantaneous)  
121 New Opera-House, Front (instantaneous)  
122 New Opera-House, Foyer  
123 Arch of Triumph  
124 The Bourse (instantaneous)  
125 Place de la Concorde (instantaneous)  
126 Panorama of the Seine  
127 " " " Seven Bridges

*Louvre.*

- 128 The Louvre  
129 The Assyrian Tomb  
130 Hall of Miletus (Greek)  
131 Phoenician Room  
132 Egyptian Room  
133 " " Sphinx of Thotmes III

- 134 Hall of Caryatide  
135 Hall of Caryatide the Discus-Thrower  
136 Hall of the Venus de Milo  
137 The Venus de Milo (front view)  
138 The Venus de Milo (three-quarter view)  
139 The Venus de Milo (profile)  
140 Statue Melpomene  
141 Hall of Augustus (Roman)  
142 The Fighting Gladiator  
143 The Hall of the Fighting Gladiator  
144 Hall of the Tiber  
145 Statue of the Tiber  
146 " " " close  
147 Hall of Diana  
148 Greek Statue of Victory  
149 Hall of Apollo  
150 Murillo's Immaculate Conception  
151 The Louvre, Gallery of Apollo

*Palace Versailles.*

- 152 Interior Grand Hall  
153 The Throne of Napoleon  
154 Bed-Room of Louis XIV.  
155 Carved Mantel-Piece

*Rouen.*

- 156 Church of St. Ouen  
157 Cathedral in the Quadrangle  
158 A Street in Rouen

*Caen.*

- 159 Church of St. Giles  
160 " St. Peter

*Holland.*

- 1 Rotterdam, Holland  
2 Amsterdam, Holland

*Bavaria.*

- 1 Campo Santo, Munich, Bavaria  
2 Bavaria and Ruhmes-halle, Munich  
3 Museum of Paintings, Munich

*Belgium.*

*Brussels.*

- 1 Brussels, Belgium  
2 Panorama of Brussels  
3 Facade of St. Gudule  
4 Pulpit of St Gudule  
5 Hotel de Ville  
6 Brewers' Hall  
7 King's House  
8 Exchange Palace  
9 Interior of Exchange  
10 King's Palace  
11 View in the Park  
12 Church of St. James  
13 The Place of Martyrs  
14 Column of Congress

- 15 Gallery of St. Hubert
- 16 Botanical Gardens
- 17 Interior of Notre Dame des Sablons
- 18 Railroad Depot of the South
- 19 Panorama of Brussels
- 20 Panorama of Brussels from Congress Square

*Ypres.*

- 21 Side-gate of Cathedral
- 22 Interior "
- 23 The Halls
- 24 Battlefield of Waterloo
- 25 Abbey of Villiers, general view

*Malines.*

- 26 Church of St. Rambaut
- 27 Interior "
- 28 View of Malines
- 29 St. Peter's Church

*Louvain.*

- 30 Panorama of Louvain
- 31 Hotel de Ville
- 32 Interior of St. Peter's
- 33 Lobby of "
- 34 St. Peter's Church

*Antwerp.*

- 35 The Cathedral and Green Square
- 36 Interior of Cathedral
- 37 " St. Paul's
- 38 Interior of St. Andrew's
- 39 Lobby and Pulpit of St. James'
- 40 The Old Basins
- 41 The New Basins
- 42 The Cathedral
- 43 Hotel de Ville
- 44 Panorama of Antwerp, No. 1
- 45 Panorama of Antwerp, No. 2
- 46 Hotel de Ville at Aude-narde

*Ghent.*

- 47 The Belfry
- 48 Hotel de Ville
- 49 Gate of the Court of Flanders
- 50 Ruins of Abbey of St. Bavo

*Bruges.*

- 51 The Belfry
- 52 Pulpit of Cathedral
- 53 Hotel de Ville
- 54 Façade of Church of Notre Dame
- 55 Canal of Ostend
- 56 Panorama of Spa.
- 57 General View of Spa
- 58 Church and Fortress of Huy
- 59 Aix-la-Chapelle Railroad Depot
- 60 Panorama of Aix-la-Chapelle

*Ostend.*

- 61 The Lighthouse, etc
- 62 The Beach and Light-house
- 63 Cathedral of Ratisbon
- 64 Bridge Pesth, Hungary
- 65 Panorama of Vienna, Austria
- 66 Francis Joseph Gate, Austria
- 67 The Belvidere, Vienna
- 68 Imperial Palace, Vienna
- 69 Tomb of Mary Christine, Vienna
- 70 The Gloriette, Vienna
- 71 Cathedral of St. Stephen's, Vienna
- 72 Cathedral of St. Etienne, Vienna
- 73 Bridge at Prague, Bohemia
- 74 Panorama of Prague
- 75 The River Moldau, Prague

*Denmark.*

- 1 Museum of Thorwaldsen, Copenhagen, Denmark
- 2 The Apostles, by Thorwaldsen
- 3 The Tomb of Thorwaldsen

*Spain and Portugal.*

- 1 Panorama of Madrid
- 2 Royal Palace, Madrid
- 3 Palace of Justice, Madrid
- 4 Fountain of the Seasons
- 5 The Alcazar, Seville
- 6 Colonnade of Pilate's House, Seville
- 7 Fountain, Pilate's House, Seville
- 8 Palace of Montpensier
- 9 Cathedral of Seville
- 10 Panorama of Toledo
- 11 Bridge of Alcantara, Toledo
- 12 Cloister of St. John, Toledo
- 13 Cathedral of Toledo
- 14 Cloister of San Gregorio, Valladolid
- 15 Panorama of Grenada and Roman Tower
- 16 The Alhambra
- 17 Court of Lions, Alhambra
- 18 Fountain of Lions, Alhambra
- 19 Cathedral of Grenada
- 20 Palace of LaGranja, Aranjuez
- 21 Panorama of Cadiz
- 22 Mosque at Cordova
- 23 Cathedral of Saragossa
- 24 Cathedral of Salamanca
- 25 Segovia
- 26 Panorama of Lisbon, Portugal
- 27 Port of Lisbon
- 28 Place of Commerce, Lisbon
- 29 The Royal Palace.
- 30 Gibraltar, the town
- 31 Gibraltar, the fortress
- 32 Panoramic View of Gibraltar City.

- 33 The Fortress of Gibraltar
- 34 The Rocks of Gibraltar.
- 35 The Rocks from Below.
- 36 The Alhambra Colonnade.
- 37 Entrance to Hall of Ambassadors.
- 38 Hall of Ambassadors.
- 39 View of General lte
- 40 Tower of Justice.
- 41 Temple of del Levant, Hall of Lions.
- 42 Court of Lions.
- 43 Tocador of Queen.
- 44 Cathedral Sepulchre.
- 45 Street View in Cadiz.
- 46 The Water Front.
- 47 Entrance to the Citadel.
- 48 Interior of the Cathedral.
- 49 Mendicants at the Cathedral Door.
- 50 Bridge of Alcantara and Covachuclos.

*Switzerland.*

- 1 Panorama of Lucerne
- 2 Lake Lucerne
- 3 Thorwaldsen's Lion of Lucerne
- 4 Panorama of Zurich
- 5 Panorama of Geneva
- 6 Castle of Chillon, Lake Geneva
- 7 Panorama of Berne
- 8 Cathedral of Berne
- 9 Fribourg
- 10 The Simplon Pass
- 11 Lake and Hospital of the Grimsel
- 12 St. Bernard Hospital and Mt. Velan
- 13 Devil's Bridge, St. Gothard
- 14 Interlachen
- 15 Falls of the Staubach
- 16 Falls of the Giesbach
- 17 Mt. Rose
- 18 Via Mala
- 19 Sea of Ice at Montanvers
- 20 Valley of Chamounix and Mt. Blanc
- 21 Mer de Glace and Mt. Blanc
- 22 Glacier of the Bossons
- 23 Glacier of the Rhone
- 24 Glacier of the Grindelwald
- 25 Needles of the Bossons

*Geneva.*

- 26 Panorama of Geneva.
- 27 Hotel de Ville—Entrance.
- 28 Hotel de Ville—Inclined Stairway.
- 29 Observatory.
- 30 Russian Chapel.
- 31 Window-Garden on the Rhone.
- 32 Opera House and Musee Rath.
- 33 Monument to the Duke of Brunswick.
- 34 Lateen Rigged Boat on the Lake.
- 35 American Chapel.
- 36 Conservatory of Music.
- 37 Cathedral of St. Pierre.
- 38 The Kersaal.
- 39 Panorama, from the Casino
- 40 The New Theater
- 41 " " (Inst)

- 42 Equestrian Statue Dufour  
 43 Conservatory of Music  
 44 Musée Rath  
 45 National Monument  
 (Bronze)  
 46 Curious Old Street  
 47 Calvin's House  
 48 Monument of Duke of  
 Brunswick  
 49 Monument of Duke of  
 Brunswick  
 50 The River Rhone and  
 Lake Geneva  
 51 Statue Jean Jaques  
 Rousseau (Bronze)  
 52 From the Swan's Pond,  
 Island of Rousseau  
 (Inst)  
 53 From the Quay (Inst)

*Miscellaneous—Switzerland.*

- 54 Castle of Chillon.  
 55 Chapel of William Tell.  
 56 Garner Glacier.  
 57 View from the Great Gar-  
 ner Glacier.  
 58 The Matterhorn.  
 59 General View of the Mat-  
 terhorn.  
 60 View Right of the Matter-  
 horn.  
 61 Glacier Left of the Mat-  
 terhorn.  
 62 Little Matterhorn.  
 63 Breithorn and Little Mat-  
 terhorn.  
 64 Visp Valley.  
 65 Tourists near Garner Gla-  
 cier.  
 66 Monte Rosa.  
 67 Weishan and New Riffel  
 Hotel.  
 68 Ein Sedlem, where Zwin-  
 gli Preached.  
 69 Home of Zwiigli.  
 70 The Lion of Lucerne.  
 71 Zurich.  
 72 Castle of Marburg.  
 73 Einsledeln Abbey  
 74 Church at Naters  
 75 Swiss Chalets, Naters  
 76 Church at Naters  
 77 View at Naters  
 78 Looking toward the  
 Simplon, from Naters  
 79 Street in Brieg  
 80  
 81 Schloss Stockalper—Brieg  
 82 Valley of the Rhone at  
 Brieg  
 83 Street in Brieg  
 84 View in Brieg  
 85 Hotel D'Angleterre—  
 Brieg  
 86 Schloss Stockalper and  
 Valley of the Rhone  
 87 Courtyard of Schloss  
 Stockalper—Brieg  
 88 The Rhone Valley, from  
 the College—Brieg  
 89 A View from the College  
 Yard—Brieg  
 90 The Rhone Valley—Brieg  
 91 Hospenthal and the  
 Spitzberg  
 92 At Hospenthal  
 93 Street in Hospenthal  
 94 Church and Castle—  
 Hospenthal  
 95 Interior of the Church—  
 Hospenthal

- 96 Thusis  
 97 Tower of the Rhine  
 Gate—Constance  
 98 Bernina Falls  
 99 Near the Summit of the  
 Bernina Pass  
 100 Ornamental Windows,  
 St. Gall  
 101 Ornamental Bay Win-  
 dows, St. Gall  
 102 A Swiss Village  
 103 Ossuary, Swiss Church-  
 yard  
 104 Cottages at Gilon  
 105 Holy Fountain, Einsle-  
 deln  
 106 Johannisherg, Via Mala  
 107 Entrance to "  
 108 Via Mala, the Gorge  
 109 "  
 110 Entrance to Stelvio Pass  
 111 View at Samaden  
 112 Hospenthal and Ander-  
 matt  
 113 Street in Andermatt  
 114 Cottages at "  
 115 Churchyard at "  
 116 Luzerne Cathedral  
 117 At Luzerne  
 118 Castle of Chillon  
 119 View at Grindewald  
 120 The Wetterhorn from  
 Grindewald  
 121 The Wetterhorn from  
 Grindewald  
 122 Schwytz and the Mythen  
 123 Chapel at Schwytz  
 124 Street in Schwytz

*Lucerne.*

- 125 From the Lake  
 126 The Old Lantern and  
 Bridge  
 127 Across the Lake  
 128 The Hofkirche  
 129 Quaint Old Street  
 130 Curious Old House  
 131 The Speuer Brucke  
 132 The Speuer Brucke and  
 Old Mill  
 133 Barracks and Old Towers  
 134 The Lion, by Thorwald-  
 sen  
 135 The Lion, by Thorwald-  
 sen (close)  
 136 Lake Front (Instantan-  
 eous, fine view)  
 137 The Alps, across Lake  
 Lucerne (Instantaneous)  
 138 The Alps, across Lake  
 Lucerne (Instantaneous)

*Lake Lucerne.*

- 139 Gersau, from the Axen-  
 strasse  
 140 Gersau, Picturesque Old  
 Cottage  
 141 Gersau, Picturesque Old  
 Cottage  
 142 Gersau, a Swiss Chatlet  
 143 Toward Pilatus, from the  
 Axenstrasse  
 144 View of the Lake, from  
 an Arbor  
 145 Road Skirting the Lake  
 146 "  
 147 Across the Lake from  
 Gersau  
 148 Across the Lake from  
 Gersau, with Steamer

- 149 Steamer Italla leaving  
 Gersau  
 150 Steamer Italla leaving  
 Gersau  
 151 Gersau, from Steamer  
 (Instantaneous)  
 152 The Mountains, from  
 Treib (Instantaneous)  
 153 The Mountains, from  
 Treib (Instantaneous)  
 154 The Mountains, from  
 Brunnen  
 155 Across the Lake from  
 Brunnen  
 156 Across the Lake from  
 Brunnen  
 157 Brunnen from the  
 Steamer (Instantaneous)  
 158 The Alps from Siskon  
 (Instantaneous)  
 159 Alpine Peaks, from the  
 Axenstrasse  
 160 Alpine View, from the  
 Axenstrasse  
 161 Grand View of the Axen-  
 strasse and the Alps  
 162 Tunnel of the Axen-  
 strasse  
 163 Tunnel of the Axen-  
 strasse  
 164 Gallery of the Axen-  
 strasse, toward Fluelen  
 165 Gallery of the Axen-  
 strasse, toward Lucerne  
 166 St. Gothard Railroad,  
 from Axenstrasse  
 167 St. Gothard Railroad and  
 Axenstrasse  
 168 Picturesque Fluelen, En-  
 trance to St. Gothard  
 Pass  
 169 The Great St. Gothard  
 Tunnel, 13½ miles long,  
 Goeshenen  
 170 St. Gothard Pass and  
 Avalanche Tunnel  
 171 St. Gothard Pass, near  
 Goeshenen  
 172 St. Gothard Pass, near  
 Goeshenen  
 173 St. Gothard Pass, near  
 Devil's Bridge  
 174 St. Gothard Pass, the  
 Devil's Bridge  
 175 St. Gothard Pass the  
 Devil's Bridge  
 176 St. Gothard Pass, the  
 Devil's Bridge, near view

*Lake Geneva.*

- 177 Across from the Casino  
 178 Panorama of the Shores  
 179 Bellevue  
 180 A Lake Steamer (Inst)  
 181 Coppet (Inst.)  
 182 Cellyny (Inst.)  
 183 Nyon (Inst.)  
 184 " showing Chateau  
 185 A Loaded Wood-Boat  
 under Sail (Inst.), Nyon  
 186 A Loaded Wood-Boat  
 under Sail (Inst.), Nyon  
 187 Rolle (Inst.) from  
 Steamer  
 188 Rolle (Inst.) the Chateau  
 189 Steamer Aigle (Inst.)  
 190 St. Prex (Inst.)  
 191 Morges, Chateau and  
 Harbor  
 192 Morges (Inst.)

- 193 Ouchy (Inst.)  
 194 Lausanne, the Cathedral  
 195 " " Old Cbateau  
 196 " " " and Barracks  
 197 Panorama of Vevay  
 198 Vevay (Inst.), Market Place  
 199 Montreaux (Inst.)  
 200 Treaux  
 201 Chillon, distant view  
 202 " " from the Road  
 203 " " " Beach  
 204 " " " " "  
 205 " " (close view)  
 206 Inclined Railroad, Ter-ritet Gilon  
 207 Rhone Glacier  
 208 Morterach Glacier  
 209 View in St. Maurice  
 210 " " " "  
 211 In the Via Mala  
 212 Panorama of Lausanne  
 213 " " " Bale  
 214 " " " Mont Blanc  
 215 Hospices of the Great St. Bernard  
 216 Hospices of the Great St. Bernard and Monte Helan  
 217 Statue of Rudolph of Erlach, Berne  
 218 The Aar at Melrengen  
 219 Via Mala  
 220 Valley of Lauterbrunne  
 221 Interlaken  
 222 Splügen  
 223 Panorama of Lucerne, toward the Rigi  
 224 Locomotive on the Rigi  
 225 Railroad up the Rigi  
 226 The Bridges at Amsteg, St. Gothard  
 227 Glacier Duguat Arquille Verte  
 228 Tunnel in the Glacier of the Grindelwald  
 229 Cavern of Glacier Rosen-lau  
 230 Gorner Glacier  
 231 Glacier des Bossons  
 232 Pyramids of Ice at Bos-sons

**Italy.***Rome.*

- 1 Panoramic View of Rome from St. Peter's.  
 2 Piazza Del Popolo.  
 3 View of the City, St. Peter's in the Distance.  
 4 Distant View of St. Peter's  
 5 Palace of the Caesars.  
 6 Palace of the Caesars, Interior.  
 7 Hill on which stood Palace of the Caesars.  
 8 Piazza Navona.  
 9 Interior of the Vatican.  
 10 Interior of the Vatican, Another View.  
 11 Sistine Chapel—Vatican.  
 12 Castle of St. Angelo, Front View.  
 13 Castle of St. Angelo, Side.  
 14 Portico of Cathedral St. Peter's.  
 15 Interior of St. Peter's (Nave).  
 16 Exterior of St. Peter's.  
 17 St. Paul's Cathedral, Interior.

- 18 Church of Santa Maria Maggiore.  
 19 Porta San Paolo.  
 20 Basilica of Constantine.  
 21 The Roman Forum.  
 22 Arch of Titus.  
 23 Column of Marcus Aurelius  
 24 Arch of Septimus Severus  
 25 Arch of Drusus.  
 26 Arch of Janus.  
 27 Temple of Antonius and Faustina.  
 28 Temple of Vesta.  
 29 Temple of Minerva.  
 30 Via Appia.  
 31 Tomb of Cecilia Metella.  
 32 Bural of the Society of Misericordia.

*Venice.*

- 33 Panorama of Venice.  
 34 Fishing Boats Moored.  
 35 Fish Market.  
 36 Group of Women at the Well.  
 37 Palace on the Grand Canal.  
 38 Ducal Palace.  
 39 Grand Canal, Doge's Palace on the right.  
 40 Palace of the Doges.  
 41 Court-Yard—Palace of Doges.  
 42 Ducal Palace from the Grand Canal.  
 43 Portico of Ducal Palace.  
 44 Casa d'Oro, or Golden Palace.  
 45 Wittenman Palace.  
 46 The Cavelli Palace, Grand Canal.  
 47 Canal View—Bridge of Sighs in the Distance.  
 48 Canal View opposite Victoria Hotel.  
 49 Gondolas on the Canal.  
 50 Bridge of the Rialto.  
 51 Bridge of Sighs.  
 52 The Grand Canal  
 53 St. Mark's Cathedral.  
 54 Grand Canal from St. Mark's Square.  
 55 Piazza St. Marco.  
 56 Gate of Campanile.

*Florence.*

- 57 Panoramic View of Florence.  
 58 View from the Mount of the Cross.  
 59 Florence, Including View of River Arno.  
 60 Bridge over the Arno (Ponte Vecchio).  
 61 Court of the Palace Vecchio.  
 62 Florence from San Miniato.  
 63 Florence, Church of San Miniato.  
 64 The Cathedral of Florence  
 65 Arch or Gate of St. Gallo.  
 66 Uffizi Galleries from Above.  
 67 Uffizi Galleries.  
 68 Corridor, Uffizi Gallery.  
 69 Second Uffizi Gallery.  
 70 Loggia Dei Lanzi.

*Pompeii.*

- 71 House of the Baker.  
 72 Street of Sallust.

- 73 The Amphitheater.  
 74 The Pantheon.  
 75 Temple of Mercury.  
 76 Temple of Isis.  
 77 Herculaneum Gate.  
 78 Foro Civic.  
 79 Street of the Tombs (Five Views).  
 80 Panoramic View of Pompeii.  
 81 The Basilica.  
 82 Cast of a Human Body.  
 83 House of the Poet.  
 84 Temple of Venus.  
 85 City Forum.  
 86 House of Cornelio Ruffo.  
 87 House of Sallust.

*Naples.*

- 88 Panorama of Naples and Bay.  
 89 Panorama of Vesuvius and Naples.  
 90 Vesuvius.  
 91 Street Fronting on the Bay.  
 92 Mosaic Pavement in the Museum.  
 93 Neapolitan Home Life.  
 94 Crater of Vesuvius.  
 95 Lava Beds—Vesuvius.  
 96 The Crater of Vesuvius.

*Genoa.*

- 97 Panorama of Genoa.  
 98 Grand Terrace Marmoreo

*Turin.*

- 99 View from the Mount of Capuchins.  
 100 Castle and Madama Palace.

*Milan.*

- 101 The Cathedral, Distant View.  
 102 The Cathedral, Near.  
 103 The Cathedral, Interior.  
 104 Arch of Simplicio.

*Pisa.*

- 105 The Cathedral—Front.  
 106 The Cathedral and Leaning Tower.  
 107 Baptistry.  
 108 Pulpit in the Baptistry.  
 109 Entrance to Campo Santo, Holy Burying Ground.

*Lake Como.*

- 110 Town of Como.  
 111 Bellaggio.

*Lake Maggiore*

- 112 Lake Maggiore, Beautiful Isle.  
 113 Pallanza.  
 114 Falls of the Tivoli.

*Palermo.*

- 115 Interior of Catacombs of Cappuchini.  
 116 Interior of Catacombs of Cappuchini.



**Russia.**

- 1 Panorama of St. Petersburg
- 2 Column of Alexander I
- 3 Church of St. Isaac, and Statue of Peter the Great
- 4 Palace of the Czar
- 5 Winter Palace of the Czar
- 6 Ball Room Palace of the Czar
- 7 Bridge of Nicholas I
- 8 Home of Peter the Great, near Church of Peter-Paul
- 9 Church of the Assumption, Palace of the Kremlin, Moscow. In this church all coronations take place.
- 10 Church of the Assumption (coronations) and Church of the Annunciation (in which all Royal Marriages and Christenings occur) Kremlin, Moscow
- 11 Church of the Redeemer, Moscow. Designed to commemorate defeat of the French, and but recently completed
- 12 Interior, Church of the Redeemer, Moscow
- 13 Church of the Sun, Moscow
- 14 The Kremlin, Moscow
- 15 The Great Bell, Kremlin
- 16 Emperor's Cannon, Kremlin
- 17 Russian Farmers
- 18 Village Priest of the Greek Church
- 19 Costumed Russian Peasants

**St. Petersburg.**

- 20 Alexander Theatre
- 21 Hotel de Ville
- 22 Trinity Church
- 23 Imperial Library
- 24 Church of the Presentation
- 25 Panorama from the Convent
- 26 Palace of Paul I
- 27 The Admiralty
- 28 Church of the Assumption
- 29 Winter Palace
- 30 Church of St. Isaac
- 31 Grand Cascade, Island Olga
- 32 Statue of Peter the Great
- 33 The Exchange
- 34 General View of the Kremlin, No. 1
- 35 General View of the Kremlin, No. 2
- 36 View from the Ivan-Velik Tower
- 37 The Bell of Ivan-Velik at the Kremlin
- 38 Grand Palace of the Kremlin
- 39 The Cannon "Emperor"
- 40 Ivan-Velik Tower
- 41 Greek Convent
- 42 Palace Petrowski
- 43 Hospital of St. Catharine
- 44 Church of St. Bazile

- 45 Church of the Nativity
- 46 Panorama of Moscow

**Norway.**

- 1 Panorama of Christiana.
- 2 View at Christiana.
- 3 The Fountain.
- 4 Royal Castle.
- 5 University.
- 6 Cathedral.
- 7 Panorama of Christiana, Norway.
- 8 Royal Palace, Christiana.
- 9 University, Christiana.

**Sweden.**

- 1 Panorama of Stockholm, West.
- 2 Panorama of Stockholm, East.
- 3 Panorama of Stockholm.
- 4 Panorama of Stockholm, Side of Lake Malare.
- 5 The Museum.
- 6 The Mint.
- 7 Royal Castle.
- 8 St. Catharine's Church.
- 9 The Grand Church.
- 10 Statue of Gustave III.
- 11 Cathedral of Upsala.
- 12 Panorama of Stockholm, Sweden.
- 13 Royal Palace, Stockholm.
- 14 Cathedral, Stockholm.
- 15 Cathedral of Upsala.

**Holland.**

- 1 Perspective of Grand Canal at Rotterdam.
- 2 Perspective of Grand Canal at Rotterdam.
- 3 Landscape at Lake Arnhem.
- 4 Gate of the Rhine at Arnhem.
- 5 On the Canal at the Haye.
- 6 Panorama of the Haye.
- 7 On the Canal at Amsterdam.
- 8 The Basin at Amsterdam.
- 9 A Mill and a Bridge at Amsterdam.
- 10 The Grand Square at Amsterdam.
- 11 The Exchange, Amsterdam.
- 12 Church of St. Anthony, Amsterdam.
- 13 Catholic Church, Amsterdam.
- 14 Statue of Rembrandt.

**Denmark.**

- 1 Panorama of Copenhagen.
- 2 Palace of Christiansborg.
- 3 Palace of Rosborg.
- 4 Thorwaldsen Museum.
- 5 Church of Our Lady.
- 6 The Market-place.
- 7 The Exchange.
- 8 Statue of Thorwaldsen (T. Museum).
- 9 Statue, A Young Shepherd, T. Museum.
- 10 Statue, Sermon of St. John.
- 11 Statue, Christ.
- 12 Statue, the Apostles.
- 13 Statue, Ganymede.
- 14 Statue, Day.
- 15 Statue, Night.
- 16 Statue, Tomb of Thorwaldsen.

**Turkey.**

- 1 Mosque of St. Sophia, Constantinople.
- 2 Mosque of Soliman.
- 3 Palace of the Sublime Porte.
- 4 Palace of the Sultan.
- 5 The Bosphorus and Golden Horn.
- 6 Castles of Europe and Asia.
- 7 Panorama of Constantinople.
- 8 Mosque of Suleiman.
- 9 Panorama.
- 10 A Cavass.
- 11 A Turkish Lady, Veiled.
- 12 A Turkish Lady, in Street Dress.
- 13 A Turkish Lady, Smoking a Narghileh.
- 14 Gate of Minarets, Galata.
- 15 Minarets of Mosque Top-Khané.
- 16 St. Sophia from the Ottoman Gate.
- 17 Constantinople and Mosque of Sultan Soliman.
- 18 Fountain of Achmet III, St. Sophia.
- 19 General View of New Palace and the Bosphorus.
- 20 Porch at Entrance of Gardens of Harem, old Seraglio.
- 21 Entrance to the Gardens of Harem, old Seraglio.
- 22 Pavilion of Dervishes, Top-Khané.
- 23 Fountain of Galata.
- 24 Perspective of Palace of Sublime Porte.
- 25 Tower of Seraskier.
- 26 Fountain of Sweet Water of Asia, Shores of Bosphorus.
- 27 Gate of the Mosque of St. Sophia.
- 28 Fountain of Ablutions at St. Sophia.
- 29 View of Mosque of Sultan Achmet.
- 30 Cupola and Minaret of St. Sophia.
- 31 Mosque of Soliman, South Façade.
- 32 Mosque of Soliman, West Façade.
- 33 Mosque of Soliman, Entrance.
- 34 Constantinople from Jews' Cemetery.
- 35 Dial Tower and Mosque, Top-Khané.
- 36 Column of Constantine, old Seraglio.
- 37 Mosque of Sultan Bayazet.
- 38 Panorama of Constantinople from Mosque of Soliman.
- 39 New Palace of Sultan.
- 40 Panorama of Constantinople from Heights of Tarola.
- 41 Panorama of Constantinople from Aqueduct of Valens.
- 42 Panorama of Constantinople from Heights of Kotskeni.

- 43 Panorama of Constantinople from Seraglio.
- 44 Panorama of Constantinople.
- 45 Panorama of Constantinople from the Horn.
- 46 Panorama of Constantinople and the Golden Horn.

### Greece.

- 1 Ruins of Athens.
- 2 Ruins of the Parthenon.
- 3 Temple of Jupiter Olympus.
- 4 Temple of Theseus.
- 5 Trihune of Demosthenes.
- 6 The Acropolis.
- 7 The Propylea.
- 8 Temple of Minerva, Polidade, Athens.
- 9 Temple of Wingless Fortune.
- 10 Temple of Cariatides Acropolis.

### Chinese Empire.

- 1 The Seven Star Mountains.
- 2 Mandarin Paying a Visit of Ceremony.
- 3 Apartment in Mandarin's House.
- 4 Feeding Silkworms and Sorting Cocoons.
- 5 The Imperial Traveling Palace.
- 6 Chinese Cat Merchants.
- 7 Temple of Buddha, Canton.
- 8 Marriage Procession.
- 9 The Great Wall of China.
- 10 Punishment of the Bastinado.
- 11 Scene from the Play of Sun and Moon.
- 12 A Street in Canton.
- 13 Great Temple at Honan, Canton.
- 14 Kite Flying at Hae Kuau.
- 15 Chinese Cemetery.
- 16 Porcelain Tower, Nanking.
- 17 Mouth of the River Chin, Keang.
- 18 Chinese Opium Smokers.
- 19 Yellow Pagoda Fort, Canton River.
- 20 An Itinerant Barber.
- 21 Junks Ashore, Ning-po River.
- 22 Wind Against Tide.
- 23 Deck of H. M. S. Zephyr.
- 24 West Gate, Ning-po.
- 25 College Gate, Ning-po.
- 26 Chinese Boys, Ning-po.
- 27 Schoolmaster, Ning-po.
- 28 Theological Students, Ning-po.
- 29 Women and Girls.
- 30 Old Wong and his Family; Four Generations of Christians.
- 31 Family at Dinner.
- 32 Court of Justice, Ning-po.
- 33 Canal and Boats Waiting for Procession.
- 34 Rendezvous of Procession.
- 35 Some of the Items in the Procession.
- 36 Dragon.
- 37 Snow Scene.
- 38 North Gate.

- 39 Temple Festival.
- 40 Mud Slide.
- 41 Bullock Slide.
- 42 Pagoda, Shoushing.
- 43 Li Ko K'hang, or Li Family Stream.
- 44 Tile Kiln and Shed.
- 45 Gorge near Ning-po.
- 46 Evening on the Chu Kyi River.
- 47 Porch of the Confucian Temple, Chu Kyi.
- 48 Mission House, Chu Kyi.
- 49 Tea Plantation and Peasants.
- 50 Landing Jetty at Che-foo.
- 51 Cargo Wharf, Che-foo.
- 52 Street in Che foo.
- 53 Cobbler's Stall.
- 54 Rope Walk.
- 55 Drawing Water by the Sea.
- 56 Junk Building and Rampart.
- 57 Fishermen's Mat Shed.
- 58 Fishing.
- 59 On the Beach, Che-foo.
- 60 Rocky Shore.
- 61 St. Peter's Mission.
- 62 Southeast Gate and Crowds.
- 63 Theatricals.
- 64 Roadway and Bed of Torrent, Che-foo.
- 65 Mule Litter and Farm.
- 66 Country Village.
- 67 Graveyard of the Kyiao Family.
- 68 Military Camp.
- 69 Village Gate and Inn.
- 70 Women Washing.
- 71 Bridge.
- 72 East Gate, Wei Hien.
- 73 Water Carriers and Ramparts.
- 74 Bales in Street, Wei Hien.
- 75 Buddhist Judgment on Screen.
- 76 Bird's Eye View from Eastern Part of Hong Kong.
- 77 The Public Gardens, Hong Kong.
- 78 The Race Course and Mornson Hill, Hong Kong.
- 79 Interior of the Temple of Five Hundred Genii, in Canton.
- 80 Chinese Doctor, Showing Long Finger Nails.
- 81 High-Class Chinese Lady.
- 82 Chinese Mandarin.

### Japan.

- 1 Map of Japan.
- 2 Emperor of Japan.
- 3 Empress of Japan.
- 4 Japanese Advertisement.
- 5 View of Yokohama.
- 6 Japanese Girl.
- 7 Meal Time.
- 8 Interior of Sleeping Room.
- 9 Group of Women and Children.
- 10 Carpenter and his Tools.
- 11 A *Jiu-riki-sha* (vehicle).
- 12 *Betto*, or Groom, tattooed.
- 13 Farm-house, showing the processes of sifting, threshing, etc., Rice.
- 14 Hand-Card and Coolies.

- 15 Wayside Tea-House.
- 16 Ferry and Ferry Boat.
- 17 Great Bronze Idol of Amida.
- 18 Group of Aborigines.
- 19 Entrance to a Temple.
- 20 Effects of a Typhoon.
- 21 Waterfall near Kobé.
- 22 Imperial Mint, Osaka.
- 23 Peculiar Native Bridge.
- 24 Hill of *Maru-yama*, Kiyoto.
- 25 Two Buddhist Priests.
- 26 One of another Sect.
- 27 Group of Beggars Praying.
- 28 Cemetery, Kiyoto.
- 29 Bullock Cart of Kiyoto.
- 30 Group of Music Girls.
- 31 City and Harbor of Nagasaki.
- 32 *Kago*, the usual conveyance in hilly districts.
- 33 Hotel in Tokio.
- 34 Interior, showing Mats and Paper Screens.
- 35 Uyeno Garden, the Park of Tokio.
- 36 A Fire Company in Tokio.
- 37 Temple of Shiba, Tokio.
- 38 The Bronze Gate, shiba, Tokio.
- 39 Interior of a Japanese Temple, Tokio.
- 40 Japs Abroad.
- 41 Japs at Home.
- 42 Former Official Costume, Japan.
- 43 Present Official Costume, Japan.
- 44 Curio Merchant, Japan.
- 45 Specimen Tea-House and Servants.
- 46 A Load of Tea; or, How Goods are Transported.
- 47 Curio Shop.
- 48 Farmer with Rain Coat.
- 49 A Street Restaurant.
- 50 Japanese Children.
- 51 Three Dancing Girls.
- 52 "Koto" Japanese Harp Player.
- 53 Pretty Japanese Girl, "Yum Yum."
- 54 Spinning.
- 55 Tossorial Artists.
- 56 At the Well.
- 57 Umbrella Maker.
- 58 Lady Hair Dresser.
- 59 Doctor and Patient.
- 60 Former Coolie's Costume, Specimen of Tattooing.
- 61 Rice Mill.

### Yokohama.

- 62 A Street View.
- 63 " "
- 64 Panorama.

### Nagasaki.

- 65 Panorama of the Harbor.
- 66 Panorama.
- 67 A Buddhist Temple.
- 68 A View in the Suburbs.

### Yeddo.

- 69 The Government Palace.
- 70 Office of the Minister of War.
- 71 Entrance to the Temple of Rokio.
- 72 Temple of Kameido.
- 73 Gate of Niton Mou.
- 74 Temple of Hong Wanji.
- 75 A Japanese Cemetery.

- 76 The Theater of Shintou-  
ucho.

*Nikko.*

- 77 A Buddhist Temple.  
78 A Small Buddhist Temple.  
79 Carved Entrances to a  
Temple.  
80 Bronze Statue in a Tem-  
ple.  
81 Temple of Yornelmoni.  
82 A Bronze Tomb.  
83 Iyeyasu Temple, at the  
Great Gate.  
84 The Sacred Stable.  
85 The Karamon Gate, Hal-  
den.  
86 Town of Hachishi.

*Tokio.*

- 87 Panorama, from the River.  
88 Temple at Shiba.  
89 " "  
90 1st Shogun Temple at  
Shiba.  
91 The Sacred Bridge.

*Kioto.*

- 92 The Temple of Kiyomidzu.  
93 Buddhist Temple of Chion  
In.  
94 Maruyama and Hotel.  
95 The Mikado's Palace.  
96 Kudan (a lighthouse).  
97 View of Totsuka at To-  
kaido.  
98 Castle at Osaka.  
99 Lake Hakone and Fuji-  
yama (sacred mountain).  
100 Great Bronze Statue of  
Buddha, in Temple at  
Kamakura.  
101 Temple, Asakusa.  
102 Great Bronze Statue of  
Buddha.

*Native Manners and Customs.*

- 103 A Japanese Pleasure  
Boat.  
104 Group of Natives.  
105 Tokaido (on a road).  
106 A Lady of Rank.  
107 Group of Japanese Ladies.  
108 A Lady Singer.  
109 A Street Merchant.  
110 A Traveling-Carriage.  
111 A Tattooed Courier.  
112 A Dancer and Danseuse.  
113 A Carpenter Going Up a  
Bamboo Ladder.  
114 A Wayside Resting-Place.  
115 A Lady Traveling in Two-  
wheeled Carriage.  
116 Men in Armor, Fencing.  
117 Two Sleeping Girls.  
118 Ladies Reading.  
119 Carpenters at Work.  
120 Girls Spinning.  
121 Women Spinning and  
Weaving Silk.  
122 A Dancing Party of Girls.  
123 Geisha Playing a Sami-  
sem.  
124 Letter-Writing.  
125 Kagof (a traveling-chair).  
126 Coolies in Winter Dress.  
127 Group of Men in Armor.  
128 Tea House Girls.  
129 Girl Carrying a Baby.  
130 A Japanese Lady.  
131 " "  
132 Girls Washing at Home.  
133 A Newspaper Boy.

- 134 Washing a Corpse for  
Burial.

**Life of Washington.**

- 1 The Cherry Tree Incident.  
2 Young Washington a  
Peacemaker.  
3 Courtship of Washington.  
4 Washington at Fort Du  
Quesne.  
5 Washington Taking Com-  
mand of the Army.  
6 Washington Crossing the  
Delaware.  
7 The Prayer at Valley  
Forge.  
8 Surrender of Cornwallis.  
9 Washington Entering  
New York City.  
10 Lafayette at Mt. Vernon.  
11 The Inaugural Address of  
Washington.  
12 Last Moments of Washing-  
ton.

**Life of U. S. Grant.**

- 1 Birthplace of Ulysses S.  
Grant.  
2 Lieutenant Grant aiming  
a cannon at Battle of  
Chapultepec.  
3 Capture of Fort Donelson.  
4 Major-General Grant's  
Charge at the Battle of  
Shiloh.  
5 Siege of Vicksburg, Mis-  
sissippi.  
6 Grant's Triumphant Entry  
into Vicksburg.  
7 Capture of Petersburg,  
Va.  
8 Surrender of Lee.  
9 Taking the Oath; Second  
Inauguration of Presi-  
dent Grant.  
10 Cottage on Mount Me-  
Gregor, New York.  
11 Death-bed of U. S. Grant.  
12 Allegory: "Let us have  
Peace."

**English History.**

- 1 Alfred the Great letting  
the Cakes Burn.  
2 Battle of Hastings, 1066.  
3 Presentation of the Magna  
Charta, 1215.  
4 Queen Phillippi Pleading  
for the Burghers of  
Calais, 1348.  
5 Death of Wat Tyler, 1381.  
6 Sons of Edward parting  
from their Mother, 1483.  
7 Murder of the Princes in  
the Tower, 1483.  
8 Henry VIII and Anne  
Boleyn, 1536.  
9 Queen Mary Signing  
Death Warrant of Lady  
Jane Grey, 1554.  
10 Death of Rizzio, 1556.  
11 Surrender of Mary Stuart,  
1567.  
12 Shakespeare at Court of  
Queen Bess.  
13 Interview between Mary  
Stuart and Queen Bess,  
1587.  
14 Mary Stuart Going to  
Execution, 1587.  
15 Destruction of the Spanish  
Armada, 1588.  
16 Death of Queen Bess, 1603.

- 17 The Gunpowder Plot Dis-  
covered, 1605.

- 18 Trial of Earl of Stafford,  
1641.  
19 Eve of Battle of Edge  
Hill, 1642.  
20 Trial of Charles I, 1649.  
21 Charles I Parting with his  
Children, 1649.  
22 Charles I Going to Execu-  
tion, 1649.  
23 Cromwell Dissolving Long  
Parliament, 1654.  
24 Cromwell Refusing the  
Crown, 1656.  
25 Return of Charles II at  
Dover, 1660.  
26 Acquittal of Seven Bish-  
ops, 1688.  
27 Battle of Boyne, 1690.  
28 Death of General Wolfe,  
1759.  
29 Nelson on Board the San  
Josef, 1798.  
30 Death of Nelson at Tra-  
falgar, 1805.  
31 Battle of Quatre Bras,  
1815.  
32 Battle of Waterloo, 1815.  
33 Wellington Meeting  
Blucher after Waterloo,  
1815.  
34 Battle of Navarino, 1827.  
35 Battle of Balaklava, 1855.  
36 Bombardment of Sebas-  
topol, 1855.

**French History.**

- 1 The Baptism of Clovis,  
496.  
2 The Coronation of Charle-  
magne, 800.  
3 Philip Augustus at Bovin-  
nes, 1214.  
4 Joan of Arc Fighting for  
France, 1429.  
5 Francis I a Prisoner at  
Madrid, 1525.  
6 Huguenots Escaping Mas-  
sacre of St. Bartholomew,  
1572.  
7 Henry III at Fête of St.  
Luc.  
8 Assassination of Duke of  
Guise, 1588.  
9 Henry IV enters Paris,  
1594.  
10 Cardinal Richelieu and  
Cinq Mars.  
11 Louis XIV and the Grand  
Conde.  
12 Anne of Austria Showing  
Prince to Mob, 1651.  
13 Death of Cardinal Maza-  
rin, 1661.  
14 Louis XIV founds the  
Hotel Invalides.  
15 Mollere at the Court of  
Louis XIV.  
16 Louis XV at the Battle  
of Fontenoy, 1745.  
17 Capture of the Bastille,  
1789.  
18 Rouget de l'Isle Chanting  
the Marseillaise, 1792.  
19 Louis XVI and Family in  
Prison, 1792.  
20 Family of Louis XVI  
Awaiting Death, 1793.  
21 Assassination of Marat,  
1793.  
22 Roll Call, Reign of Terror,  
1793.

- 23 Marie Antoinette Going to Execution, 1793.  
24 Girondists on their way to Execution, 1793.

### Life of Napoleon Bonaparte.

- 1 Napoleon at the Bridge of Lodi, 1796.  
2 Napoleon's Clemency to the Sentinel.  
3 Napoleon at the Battle of Pyramids, 1798.  
4 Napoleon Crossing the Alps, 1800.  
5 The Coronation of Napoleon, 1805.  
6 Napoleon at the Battle of Austerlitz, 1805.

- 7 Napoleon Visiting the Ambulance.  
8 Napoleon at Battle of Jena, 1806.  
9 Napoleon at Battle of Friedland, 1807.  
10 Napoleon at Sommo-Sierra, 1808.  
11 Napoleon at Wagram, 1809.  
12 Napoleon informing Josephine of the Divorce, 1810.  
13 Napoleon Receiving Portrait of his son, 1812.  
14 The Retreat from Moscow, 1813.  
15 Napoleon Parting with his son, 1814.

- 16 Napoleon at Battle of Arcis, 1814.  
17 Napoleon Retreating from Battle of Nations, 1814.  
18 The Parting at Fontainebleau, 1814.  
19 The Return from Elba, 1815.  
20 Napoleon at Waterloo, 1815.  
21 Napoleon on Board the Bellerophon, 1815.  
22 Napoleon at St. Helena.  
23 Deathbed of Napoleon, 1821.  
24 The Apotheosis of Napoleon.

## COLORED SLIDES.

The following scenes are of the choicest description, strictly first-class, beautifully colored, 3 inches in diameter and securely mounted in wooden frames, 4 by 7 inches. All first-class Colored Slides MUST BE sealed with Balsam and permanently framed. They are perfectly transparent. *Per Slide, \$1.50 each; plain, 50 cents each.*

### BIBLE ILLUSTRATIONS.

By PAUL GUSTAVE DORÉ, a French artist, born at Strasburg, 1832. The following Illustrations were published in 1866:

#### Old Testament.

- 1 God Creates Light. Gen. 1, 3.  
2 Formation of Eve. Gen. 11, 21.  
3 Expulsion of Adam and Eve from Paradise. Gen. 3, 23.  
4 Cain and Abel Offering their Sacrifices. Gen. 4, 3.  
5 The First Murder. Gen. 4, 8.  
6 The Deluge. Gen. vii, 10.  
7 Scene During the Deluge. Gen. vii, 10.  
8 Noah Sends Out the Dove. Gen. viii, 8.  
9 The Curse of Ham. Gen. ix, 24.  
10 The Tower of Babel. Gen. xi, 4.  
11 Abraham's Journey to Canaan. Gen. xii, 5.  
12 Abraham Visited by three Angels. Gen. xviii, 1.  
13 The Flight of Lot. Gen. xix, 23.  
14 Abraham Sends Hagar Away. Gen. xxi, 14.  
15 Hagar and Ishmael in the Wilderness. Gen. xxi, 15.  
16 Abraham and Isaac Preparing for the Sacrifice. Gen. xxii, 6.  
17 Abraham Buries Sarah. Gen. xxiii, 19.  
18 Rebecca and Eleazer at the Well. Gen. xxiv, 15.  
19 Isaac's Reception of Rebecca. Gen. xxiv, 64.  
20 Isaac blesses Jacob. Gen. xxvi, 27.  
21 Jacob's Dream. Gen. xxviii, 11.

- 22 Jacob in the house of Laban. Gen. xxix, 20.  
23 Jacob's Prayer. Gen. xxxii, 9.  
24 Jacob Wrestling with the Angel. Gen. xxxii, 23.  
25 Reconciliation of Jacob and Esau. Gen. xxxiii, 4.  
26 Joseph sold by his brothers. Gen. xxxvii, 25.  
27 Joseph Interprets Pharaoh's Dream. Gen. xli, 14.  
28 Joseph makes Himself known to his Brothers. Gen. xlv, 1.  
29 Jacob travels to Egypt. Gen. xlv, 1.  
30 Moses Exposed on the Nile. Exod. ii, 3.  
31 Moses saved by Pharaoh's daughter. Exod. ii, 5.  
32 Moses before Pharaoh. Exod. vii, 10.  
33 The Plague of Pestilence. Exod. ix, 6.  
34 The Plague of Darkness. Exod. x, 22.  
35 Death of the first-born of Egypt. Exod. xii, 29.  
36 Pharaoh entreats Moses to leave Egypt. Exod. xii, 31.  
37 Pharaoh's army drowned in the Red Sea. Exod. xiv, 21.  
38 The law proclaimed on Mount Sinai. Exodus xix, 16.  
39 Moses descends from Mount Sinai. Exodus xix, 25.  
40 Punishment of Korah, Dathan and Abiram. Num. xvi, 16.

- 41 Moses strikes the Rock. Num. xx, 11.  
42 The people plagued by fiery Serpents. Num. xxi, 6.  
43 Balaam stopped by an Angel. Num. xxii, 24.  
44 The Hebrews crossing the Jordan. Jos. iii, 14.  
45 Destruction of the walls of Jericho. Jos. vi, 6.  
46 Joshua spares Rahab. Jos. vi, 25.  
47 The Stoning of Achan. Jos. vii, 24.  
48 Destruction of the village of Ai by the Flames. Jos. viii, 18.  
49 The Amorites destroyed by a shower of Stones. Jos. x, 11.  
50 Joshua commands the Sun to stand still. Jos. x, 12.  
51 An Angel appears to Joshua's army. Judges ii, 1.  
52 Jael and Sisera. Judges vi, 21.  
53 Deborah's Song. Judges v, 1.  
54 Gideon chooses his Band. Judges vii, 5.  
55 Gideon frightens the army of Midian. Judges vii, 15.  
56 Death of Jerubbaal's son. Judges ix, 4.  
57 Abimelech. Judges ix, 52.  
58 Jephthah's Daughter meeting her Father. Judges xi, 34.  
59 Jephthah's Daughter and her Companions. Judges xi, 38.  
60 Samson conquering the Lion. Judges xiv, 5.

- 61 Samson killing the Philistines with the jawbone of an Ass. Judges xv, 15.
- 62 Samson carrying off the gates of Gaza. Judges xvi, 3.
- 63 Samson and Delilah. Judges xvi, 17.
- 64 Death of Samson. Judges xvi, 25.
- 65 The Outrage at Gibeah. Judges xix, 27.
- 66 The Levite of Ephraim takes away the corpse of his wife. Judges xix, 28.
- 67 The Benjamites abduct the Daughters of Shiloh. Judges xxi, 19.
- 68 Naomi and her Daughters-in-law. Ruth i, 14.
- 69 Boaz and Ruth. Ruth ii, 5.
- 70 Return of the Ark of God. I Sam. vi, 13.
- 71 Samuel causes Agag to be put to death. I Sam. xv, 32.
- 72 Saul casting his javelin at David. I Sam. xviii, 11.
- 73 David's Escape. I Sam. xix, 12.
- 74 David shows Saul that he has spared him. I Sam. xxiv, 11.
- 75 Saul and the Witch of Endor. I Sam. xxviii, 14.
- 76 Death of Saul. I Sam. xxxi.
- 77 The inhabitants of Jabesh-Gilead gather the corpses of Saul and his Sons. I Sam. xxxi, 11.
- 78 Combat of the Champions of Ishbosheth and David. II Sam. ii, 16.
- 79 David sends his Chariots armed with Scythes against the Ammonites. II Sam. xx, 18.
- 80 Death of Absalom. II Sam. xviii, 14.
- 81 David Mourns Absalom. II Sam. xviii, 33.
- 82 Rizpah protects the corpses of her Children. II Sam. xxi, 10.
- 83 Abishai saves David's life. II Sam. xx, 15.
- 84 Solomon's Judgment. I Kings iii, 16.
- 85 Cedars of Lebanon intended for the building of the Temple. I Kings v, 2.
- 86 Solomon's reception of the Queen of Sheba. I Kings x, 1.
- 87 Solomon. I Kings iv, 32.
- 88 The Prophet of Bethel. I Kings xiii, 11.
- 89 Elijah revives the Son of the Widow of Zarephath. I Kings xvii, 17.
- 90 Elijah causes the Priests of Baal to perish. I Kings xviii, 40.
- 91 Elijah comforted by an Angel. I Kings xix, 5.
- 92 Ahab kills one hundred thousand Syrians. I Kings xx, 29.
- 93 Death of Ahab. I Kings xxii, 34.
- 94 Jehoshaphat sees the destruction of the host of Ammon and Moab. II Kings xx, 44.
- 95 Elijah causes thunderbolts to fall on the Emissaries of Jezebel. II Kings i, 9.
- 96 Elijah in the Fiery Chariot. II Kings ii, 11.
- 97 The Famine in Samaria. II Kings vi, 24.
- 98 Death of Jezebel. II Kings ix, 30.
- 99 The followers of Jehu find the head and extremities of Jezebel. II Kings ix, 34.
- 100 Death of Athaliah. II Kings xi, 16.
- 101 Strangers devoured by Lions in Samaria. II Kings xvii, 25.
- 102 An Angel destroys the host of Sennacherib. II Kings xix, 35.
- 103 Nebuchadnezzar has the Sons of Zedekiah killed before their Father. II Kings xxv, 7.
- 104 Cyrus returns the Vessels to the Temple of Jerusalem. Ezra i, 7.
- 105 Reconstruction of the Temple. Ezra iii, 1.
- 106 Artaxerxes liberates the Israelites. Ezra vii, 11.
- 107 Ezra at Prayer. Ezra ix, 5.
- 108 Nehemiah and his followers at the Gates of Jerusalem. Nehem. ii, 11.
- 109 Ezra shows the Tablets of the law. Nehem. viii, 1.
- 110 Tobias and the Angel. Tob. vi, 11.
- 111 The Family of Tobias see the Angel Raphael disappear. Tob. xii, 17.
- 112 Judith and Holofernes. Judith xiii, 8.
- 113 Judith shows the head of Holofernes. Judith xiii, 19.
- 114 Queen Vashti refuses to obey the orders of Ahasuerus. Esther i, 10.
- 115 Triumph of Mordecai. Esther vi, 11.
- 116 Esther in a Swoon. Esther iv, 4.
- 117 Esther confounds Haman. Esther vii, 1.
- 118 Job learning his ruin. Job i, 13.
- 119 Job on his dunghill. Job ii, 8.
- 120 Feast of Belshazzar. Dan. v, 1.
- 121 Isaiah. I.
- 122 Isaiah sees Babylon destroyed in a Dream. Isaiah xlii, 1.
- 123 The vision of Isaiah (Deconstruction of Leviathan). Isaiah xxvii, 1.
- 124 Jeremiah dictates his Prophecies to Baruch. Jerem. xxxvi, 4.
- 125 Jerusalem's Mourning after the Destruction. Jerem. xxxix, 8.
- 126 Baruch.
- 127 Ezekiel Prophesying. Ezekiel xxi, 1.
- 128 Vision of Ezekiel. Ezekiel xxxvi, 1.
- 129 Daniel.
- 130 The Three Youths in the Fiery Furnace. Dan. iii, 24.
- 131 Daniel in the Lion's Den. Dan. vi, 16.
- 132 The Vision of Daniel. Dan. vii, 1.
- 133 Susannah in the Bath. Dan. xiii, 15.
- 134 Justification of Susannah. Dan. xiii, 60.
- 135 Daniel confounds the Priests of Baal. Dan. xiv, 2.
- 136 Amos.
- 137 Jonah ejected by the Whale. Jon. ii, 10.
- 138 Jonah exhorts the Ninevites to repent. Jon. iii, 4.
- 139 Micah exhorts Israel to repent. Micah i, 1.
- 140 Vision of Zechariah. Zech. vi, 1.
- 141 Heliodorus driven from the Temple. II Macc. iii, 24.
- 142 The inhabitants of Jerusalem see armies appear in the sky. II Macc. v, 39.
- 143 Martyrdom of old Eleazar. II Macc. vi, 18.
- 144 The Mother of Maccabees. II Macc. xii, 21.
- 145 Mattathias kills the Profane. I Macc. ii, 25.
- 146 Mattathias calls the refugee Jews to arms. I Macc. ii, 39.
- 147 Judas Maccabeus pursues Timothy. I Macc. v, 42.
- 148 Fall of Antioch. II Macc. ix, 7.
- 149 The Angel of the Maccabees. II Macc. xi, 8.
- 150 Death of Eleazar, the Maccabee. I Macc. vi, 43.
- 151 Judas Maccabeus before Nicanor's army. II Macc. xv, 20.
- 152 Jonathan destroys the Temple of Dagon. I Macc. x, 84.

# **New Testament.**

- 153 The Annunciation. Luke i, 28.
- 154 The Birth of Christ. Luke ii, 6.
- 155 The Magi (wise men of the East) guided by a Star. Matt. ii, 1.
- 156 The Flight into Egypt. Matt. ii, 14.
- 157 The Slaughter of the Innocents. Matt. ii, 16.
- 158 Jesus among the learned men. Luke ii, 46.

- 159 St. John the Baptist preaching in the Wilderness. Matt. iii. 1.
- 160 The Baptism of Christ. Matt. iii. 16.
- 161 Christ Tempted by the Devil. Matt. iv. 8.
- 162 The Wedding at Cana. John ii. 1.
- 163 Christ and the Samaritan Woman. John iv. 6.
- 164 Christ in the Synagogue. Luke iv. 16.
- 165 Christ Preaching on the Sea of Galilee. Luke v. 1.
- 166 The Miraculous Draught of Fishes. Luke v. 4.
- 167 Christ Preaching before the Multitude. Matt. iv. 23.
- 168 Christ Healing the Sick. Matt. iv. 23.
- 169 The Sermon on the Mount. Matt. v. 1.
- 170 Christ Stilling the Storm. Matt. iv. 37.
- 171 Mary Magdalene Repenting. Luke vii. 50.
- 172 Resurrection of the Daughter of Jairus. Luke viii. 54.
- 173 Christ Healing the Mute possessed by a Devil. Matt. ix. 32.
- 174 The Apostles collecting ears of Grain on the Sabbath. Matt. xii. 1.
- 175 Christ Walking on the Water. Matt. xiv. 25.
- 176 The Miracle of the Loaves. Matt. xv. 32.
- 177 The Transfiguration. Matt. xvii. 1.
- 178 The Healing of the Lunatic. Matt. xvii. 18.
- 179 The Good Samaritan. Luke x. 33.
- 180 Arrival of the Good Samaritan at the Inn. Luke x. 34.
- 181 Christ with Martha and Mary. Luke x. 38.
- 182 The Return of the Prodigal Son. Luke xv. 29.
- 183 The Prodigal Son embraces his Father. Luke xv. 20.
- 184 Lazarus and the Rich Man.
- 185 Christ and the Adulteress. John viii. 3.
- 186 The Pharisee and the Publican. Luke xviii. 10.
- 187 Christ and the Little Children. Mark x. 13.
- 188 Resurrection of Lazarus. John xi. 34.
- 189 Christ entering Jerusalem. Matt. xxi. 6.
- 190 Christ clearing the Temple. Mark xi. 15.
- 191 The Tribute Money. Matt. xxii. 16.
- 192 The Poor Widow's two mites. Mark xii. 41.
- 193 The Last Supper. Matt. xxiv. 20.
- 194 The Prayer in the Garden of Gethsemane. Matt. xxvi. 39.
- 195 Christ on the Mount of Olives. Luke xxii. 41.
- 196 The Kiss of Judas. Matt. xxvi. 49.
- 197 Peter denies Christ. Matt. xxvi. 69.
- 198 The Flagellation. John xix. 2.
- 199 Christ Crowned with Thorns. John xix. 2.
- 200 Christ Insulted. Matt. xxvii. 30.
- 201 Christ Presented to the People. John xix. 15.
- 202 Christ Overburdened by the Cross. Luke xxiii. 26.
- 203 Christ arriving on the summit of Mount Calvary. John xix. 17.
- 204 The Crucifixion. John xix. 18.
- 205 Erection of the Cross. John xix. 18.
- 206 Death of Christ. Matt. xxvii. 50.
- 207 The Obscuration after the death of Christ. Luke xxiii. 45.
- 208 The descent from the Cross. John xix. 38.
- 209 The body of Christ after the descent. John xix. 40.
- 210 The body of Christ laid in the Tomb. John xix. 41.
- 211 The Angel appearing to the Marys. Mark xvi. 5.
- 212 Christ and the Disciples at Emmaus. Luke xxiv. 13.
- 213 The Ascension. Mark xvi. 19.
- 214 The Pentecost. Acts ii. 1.
- 215 The Apostles preaching the Gospel. Acts ii. 4.
- 216 Peter and John healing the Lame Man. Acts iii. 1.
- 217 Martyrdom of Saint Stephen. Acts vii. 57.
- 218 Paul on the way to Damascus. Acts ix. 3.
- 219 Paul in the house of Cornelia. Acts x. 24.
- 220 Deliverance of Paul. Acts ix. 9.
- 221 Paul in the Synagogue of Thessalonica. Acts xvii. 2.
- 222 Paul at Ephesus. Acts xix. 19.
- 223 Paul threatened by the Jews in Jerusalem. Acts xxi. 27.
- 224 Paul landing at Malta. Acts xxvii. 39.
- 225 John at Patmos. Apoc. v. 9.
- 226 Death on the pale horse. Apoc. vi. 8.
- 227 The virgin crowned with stars. Apoc. xii. 1.
- 228 Babylon in ruins. Apoc. xviii. 1.
- 229 The last Judgment. Apoc. xx. 11.
- 230 The Angel shows Jerusalem to John. Apoc. xxi. 9.
- 2 The Angel appearing to the Shepherds.
- 3 The Babe of Bethlehem.
- 4 The Magi guided by the Star.
- 5 The Adoration of Magi.
- 6 The Presentation in the Temple.
- 7 The Flight into Egypt.
- 8 The Shadow of the Cross.
- 9 The Return to Nazareth.
- 10 Jesus disputing with the Doctors.
- 11 St. John preaching in the Wilderness.
- 12 The Baptism of Christ.
- 13 Christ Tempted by the Devil.
- 14 Christ and the Samaritan Woman.
- 15 Christ preaching on the Sea of Galilee.
- 16 The Sermon on the Mount.
- 17 Christ healing the Sick.
- 18 Christ raising the daughter of Jairus.
- 19 Christ Walking on the Waters.
- 20 The Miracle of the Loaves and Fishes.
- 21 The Transfiguration.
- 22 Parable of Prodigal Son—Carousal.
- 23 Parable of Prodigal Son—Swineherd.
- 24 Parable of Prodigal Son—Return.
- 25 Christ blessing the little children.
- 26 Mary Magdalene washing feet of Jesus.
- 27 Christ and the rich young man.
- 28 The Parable of the Lilies.
- 29 Christ the outcast of the People.
- 30 Christ's Entry into Jerusalem.
- 31 The Poor Widow's Two Mites.
- 32 Christ the Good Shepherd.
- 33 Christ Weeping over Jerusalem.
- 34 The Last Supper.
- 35 The Agony in the Garden.
- 36 Christ Rejected.
- 37 Christ hearing the Cross.
- 38 Christ arriving at Mt. Calvary.
- 39 The Crucifixion.
- 40 Golgotha, "It is Finished."
- 41 The Descent from the Cross.
- 42 The Body of Christ Laid in Tomb.
- 43 First Easter Dawn.
- 44 The Resurrection of Christ.
- 45 The Marys at the Tomb.
- 46 Easter Morning.
- 47 The Journey to Emmaus.
- 48 The Ascension of Christ.

#### Bible History.

Forty-eight Views, with Lecture, plain, \$12.; colored, \$36.

- 1 Adam and Eve in Paradise.
- 2 The Sacrifice of Noah.
- 3 Rebecca at the Well.

#### Life of Our Savior.

Forty-eight Views, with Lecture, plain, \$24.; colored, \$72.

- 1 The Annunciation to the Virgin.

- 4 Eleazer in the house of Bathuel.
- 5 Arrival of Rebecca.
- 6 Jacob's Dream.
- 7 Jacob waters the flock of Rachel.
- 8 Joseph sold by his brothers.
- 9 Joseph's bloody coat brought to Jacob.
- 10 Joseph meets his father in Goshen.
- 11 Moses saved by Pharaoh's daughter.
- 12 Moses assisting the daughters of Jethro.
- 13 Pharaoh's host drowned in the Red Sea.
- 14 Jephthah's daughter meeting her father.
- 15 Sampson betrayed by Delilah.
- 16 David returns conqueror of Goliath.
- 17 David in camp of Saul.
- 18 Saul and the Witch of Endor.
- 19 The Judgment of King Solomon.
- 20 Solomon's Reception of Queen of Sheba.
- 21 Espousal of Esther by Ahasuerus.
- 22 Esther implores Ahasuerus.
- 23 The Feast of Belshazzar.
- 24 Daniel in the Lions' Den.

#### Niagara in Winter.

- 1 Ice statue on Luna Island, Niagara.
- 2 Snow-wreathed evergreens in the grove above Horseshoe Falls, Canada side, Niagara.
- 3 American Falls and Ice Mounds, from Canada side.
- 4 Ice-encrusted trees on Luna Island, Niagara.
- 5 Icicles under the bank—Clifton House in the distance.
- 6 Frozen spray encrusting trees on Luna Island, Niagara.
- 7 Frozen spray encrusting trees on Luna Island, Niagara.
- 8 A snow effect on Luna Island.
- 9 A snow effect in the grove above Horseshoe Falls.
- 10 Tracery of Winter on Luna Island, Niagara.
- 11 Icicles under the bank and portion of American Fall.
- 12 Frozen spray encrusting trees on Luna Island, Niagara.
- 13 Frozen spray in the grove above Horseshoe Falls, Niagara.
- 14 The snow arch on Luna Island, Niagara.
- 15 Below the American Falls, Niagara.
- 16 Frozen spray encrusting trees on Luna Island, Niagara.

- 17 Tracery of Winter on Luna Island, Niagara.
- 18 The American Fall seen through the snow arch, Niagara.
- 19 Ice lodged on the rocks near Goat Island, Niagara.
- 20 Snow-wreathed evergreens in the grove above Horseshoe Falls, Niagara.
- 21 General view of American Falls, with mounds of snow and ice, Niagara.
- 22 The Horseshoe Fall from the Custom House, Niagara.
- 23 The American Fall from the Ferry, Niagara.
- 24 Terrapin Tower and Horseshoe Fall, Niagara.
- 25 The American Fall from the Hog's Back, Goat Island.
- 26 The Horseshoe Fall, Niagara.
- 27 Horseshoe Fall from Canada side, Niagara—Instantaneous.
- 28 Below the American Fall, Niagara.
- 29 Terrapin Tower and Horseshoe Fall, Niagara.
- 30 The Horseshoe Fall from Clifton House, Niagara.
- 31 The Horseshoe Fall from Clifton House, Niagara.
- 32 The Horseshoe Fall from the river, Niagara.
- 33 General View of the Falls from Point View.
- 34 General View of the American Falls from Hog's back.
- 35 Terrapin Tower and Horseshoe Fall, Niagara.
- 36 Terrapin Tower and Horseshoe Fall, Niagara.
- 37 Terrapin Tower and the Rainbow, Niagara.
- 38 Terrapin Tower and Horseshoe Fall from Goat Island.
- 39 Terrapin from Goat Island, Niagara.
- 40 View of the Rapids looking toward the Three Sisters.
- 41 The Rapids, Niagara—Instantaneous.
- 42 Luna Island Bridge after a snow storm, Niagara.
- 43 The Rapids and Bridge to Goat Island, Niagara.
- 44 Bridge from the first to second sister Islands, Niagara.
- 45 Suspension Bridge from American side, Niagara.
- 46 The new Suspension bridge from American side, Niagara.
- 47 General View of the Falls from Victoria Point, Niagara.
- 48 Perspective of Suspension Bridge Carriage Way, Niagara.
- 49 The Suspension Bridge and Falls from Mont-eagle House, Niagara.

- 50 Snow and Sunshine on Luna Island Bridge, Niagara.
- 51 Suspension Bridge Carriage Way, Niagara.
- 52 The New Suspension Bridge, Niagara.
- 53 General View of the Falls from Point View, Niagara—Summer.

#### A Thousand Miles in Nile Land.

*Fifty Views, with Lecture, \$25.*

- 1 The Ras-et-tin Palace.
- 2 The American and European Quarter.
- 3 A Curious Bazaar.
- 4 An Egyptian Lady on a Donkey.
- 5 The Statue of Mohammed Ali.
- 6 A Moslem Cemetery.
- 7 The Citadel of Cairo.
- 8 The Ablution Font and Clock Tower of the Mosque.
- 9 An Arab Priest Reading the Koran in the Mosque.
- 10 The tomb of Mohammed Ali.
- 11 Cairo, Southeast from the Citadel.
- 12 The American Mission House at Cairo.
- 13 The Kasr-el-Nil Bridge.
- 14 Avenue of Acacia.
- 15 The Great Pyramid of Cheops.
- 16 The Pyramid of Chephren.
- 17 The Sphinx and the Pyramid of Mencheres.
- 18 A Last Look at the Sphinx.
- 19 The Black Sphinx Hyksos.
- 20 Statue of Sheyk-el-Beked.
- 21 The Grand Vestibule of the Boulak Museum.
- 22 The Steamer "Beni Soueff."
- 23 The Island of Rhoda.
- 24 The Tree of the Virgin.
- 25 The Sugar Mill at Minieh.
- 26 The Egyptian Desert, from the Tombs at Assiout.
- 27 Arabic Doorway.
- 28 The Temple of Denderah.
- 29 The Temple of Goorneh.
- 30 The Hall of Columns of Goorneh.
- 31 The Vocal Memnon of the Theban Desert.
- 32 The Ramesseum of the Great King.
- 33 The Ruins of the Temple of Karnak.
- 34 The Details of a Capital at Karnak.
- 35 Luxor, from the Theban Plain.
- 36 Assouan Harbor.
- 37 Hahnefa, the Fantasia Dancer.
- 38 Edfon, from the Temple Wall.
- 39 A View of the Temple of Edfon, Pylon or Gateway.
- 40 The First Cataract of the Nile.

- 41 The Ruins of the Philae. from the South.
- 42 The Second Propylon or Gateway of the Temple of Philae.
- 43 Philae's West Colonnade and the Island of Biggeh in the Distance.
- 44 A Colonnade and Obelisk.
- 45 A Nubian Habt Seller.
- 46 The Temple of Kairscheh.
- 47 The Wady Sabooah.
- 48 The Great Temple of Aboo Simbel.
- 49 A Colossal Head Distorted.
- 50 Two Temples in Aboo Simbel.

### **Egypt and the Egyptians.**

*Fifty Views, with Lecture, \$25.*

- 1 The Airy Sesostris.
- 2 Like Spiders.
- 3 On her Deck.
- 4 Mohammed Ahmed, Esq.
- 5 Our Coffee Miller.
- 6 Our Surly Cook, Ali Hanna.
- 7 Pretty Teeth, Our Cataract Boatman.
- 8 The Palanquin.
- 9 The Gay and Cheerful Donkey.
- 10 Travelers Riding on Camel Back.
- 11 The Arabic Horse "Derwish" and his Attendant Sais.
- 12 A Nile Farm.
- 13 The Prostrate Statue of Rameses II.
- 14 The Colossi of Thebes.
- 15 The Borders of Thebes.
- 16 The Avenue of Sphinxes.
- 17 The Open Area and Single Column.
- 18 A great "Grape-Pattern" Capital.
- 19 The Temple of Luxor.
- 20 The Temple of Edfou.
- 21 The Temple of Osiris at Abydos.
- 22 The First Cataract.
- 23 A Nest of Nubians Shooting the Cataract.
- 24 The Large Temple at Aboo Simbel.
- 25 The Southern Colossus at Aboo Simbel.
- 26 A Group of Travelers in the Monster's Lap.
- 27 The Desert of the Nile.
- 28 East from the Temple of Isis.
- 29 Pharaoh's Bed, or the Kiosk of Isis.
- 30 The Nile and the Grand Colonnade.
- 31 North of the Temple of Isis.
- 32 The First Glimpse of Philae.
- 33 The Mosque of Mohammed Ali at Cairo.
- 34 Cairo, "The Gem of the Orient."
- 35 Cairo, the Curious.
- 36 The Interior of the Mosque of Sultan Hassan.
- 37 A Modern Arabic Palace.
- 38 A View of the Court.

- 39 A Mashreebeyeh Window.
- 40 The Kasr-Eu-Nil Bridge.
- 41 Eight Donkeys and their Drivers.
- 42 Through the Avenue of palms.
- 43 The Pyramids of Cheops, Chepren and Mencheres.
- 44 Climbing the Pyramid of Cheops at the northeast corner.
- 45 An Upward View of the Pyramid of Cheops.
- 46 The Great Entrance of the Pyramid of Cheops.
- 47 The Pyramid Coffin.
- 48 First Glimpses of the Pyramid of Cheops.
- 49 The Tombs and Pyramids of Cheops.
- 50 The Sphinx, front face.

### **From Damascus to the Sea.**

*Fifty Views, with Lecture, \$25.*

- 1 The Street Called Straight.
- 2 An Antique Shop and Bazaar.
- 3 The House of Ananias.
- 4 Weaver's Shop.
- 5 The Grand Mosque of Damascus.
- 6 The Gorgeous Interior of the Mosque.
- 7 The Gate with Greek Inscription.
- 8 A Panoramic View of Damascus.
- 9 The Presbyterian Mission School for Girls.
- 10 A Damascene Residence.
- 11 The Harem.
- 12 The Great Saloon.
- 13 The Arab Family at Home.
- 14 Houses on the City Wall.
- 15 A Garden on the Abana.
- 16 Gate of Peace.
- 17 The Fountain of Fijeh.
- 18 Suck Wady Baradn.
- 19 An Old Roman Road.
- 20 The Birthplace of the Abana.
- 21 A General View of the Ruins of Baalbec.
- 22 The Temple of the Sun.
- 23 The Front of the Temple of the Sun.
- 24 The Interior of the Temple of the Sun.
- 25 The Details of a Capital.
- 26 The Great Court.
- 27 Modern Baalbec.
- 28 Fallen Columns and Capitals.
- 29 The Temple of Baal.
- 30 The Interior of the Mosque.
- 31 The Statue of the Sun.
- 32 The Circular Temple.
- 33 Cyclopean Stones.
- 34 The Temple of Baal through the Breach.
- 35 The Quarry.
- 36 Our Donkey Baby of Baalbec.
- 37 Lebauon to Ante-Lebanon.
- 38 Zahleh.
- 39 The Girls' School at Zahleh.
- 40 The Beyrouit Music Garden.

- 41 A Beyrouit Street View and a Wall of Flowers.
- 42 Beyrouit toward Mt. Lebanon.
- 43 Beyrouit toward the Sea.
- 44 The Presbyterian Church and Girls' Seminary.
- 45 The Syrian Presbyterian College.
- 46 Another View of the Syrian Mission School.
- 47 Ancient Joppa.
- 48 The House of Simon, the Tanner.
- 49 Our Dragoman, Mohammed Achmed Effendi Hedaiyah.
- 50 Traveling Tent, Interior.

### **How They Live in Egypt.**

*Fifty Views, with Lecture, \$25.*

- 1 Alexandria from the Arsenal.
- 2 A Modern Arabic Bazaar in Cairo.
- 3 A View in the Mooske.
- 4 The Arab Quarter.
- 5 The Equestrian statue of Ibrahim Pasha.
- 6 An Arabian Dwarf and Giant.
- 7 An Egyptian Water-Carrier.
- 8 The Watchman at the Palace Gate.
- 9 The Canines at a Smithy Door.
- 10 A Modern Arabic Palace.
- 11 The Latticed Balcony.
- 12 An Egyptian Money-Changer.
- 13 A Nubian Woman and Child.
- 14 A Group on the Summit of the Pyramid of Cheops.
- 15 An Egyptian Woman Veiled.
- 16 Mustapha Adli, the Dragoman.
- 17 The Nubian Donkey.
- 18 On the Mahmoudieh Canal.
- 19 A Sugar Cane Boat on the Mahmoudieh Canal.
- 20 The Village of Esneh.
- 21 An Alexandrian Home.
- 22 An Egyptian Bread-Seller.
- 23 An Arabic Farm Village near Alexandria.
- 24 A Nile Sakiyeh.
- 25 A Watch Tower and Irrigated Land.
- 26 An Egyptian Plow and Team.
- 27 Irrigated Ditches.
- 28 The Great Pyramids of Gizeh.
- 29 The Little Bread-Maker.
- 30 Nubian Water Vessels.
- 31 A Little Arab Maiden.
- 32 A Group of Nubian Children.
- 33 An Egyptian Sheep Market.
- 34 The Airy Little "Sesostris."
- 35 The Harbor of Assiout.
- 36 Assiout from the Mount of Tombs.
- 37 A Modern Egyptian Cemetery.



- 38 The Canal Bazaar of Assiout.
- 39 A Boat Load of Water Jars at Kenah on the Nile.
- 40 Sifting Grain.
- 41 A Group of Nubian Women.
- 42 The Stores of the Desert and the People.
- 43 The Nubian Curly-Heads.
- 44 A Fantasia Dancer of Luxor.
- 45 A Moslem Cemetery.
- 46 The Dahabeh "Sesotria."
- 47 The Steamer "Sardieh."
- 48 A Stranded Dahabeh.
- 49 A Pottery Bazaar.
- 50 The Tomb of Caliph Allah Own.

### Nile Tombs and Temples.

*Fifty Views, with Lecture, \$25.*

- 1 The Obelisk at Heliopolis.
- 2 The Fallen Casing of the Pyramid of Mencheres.
- 3 The Ruin of the Temple and the Pyramid of Chephren.
- 4 Statue of King Cephren.
- 5 The Tomb of the Caliph Sultan Garribe.
- 6 The First Tomb of Beni Hassan.
- 7 Scheikh-Abd-El-Goornah.
- 8 The Plain of Thebes from Bab-El-Malouk.
- 9 Tombs of Rameses III, and Sethi I., at Bab-El-Malouk.
- 10 The Tomb of Sethi.
- 11 The Tomb of Sethi I at one Corner.
- 12 The Harpists' Chamber.
- 13 Stone and Wooden Mummy Cases.
- 14 The Face of Old King Pinotem.
- 15 Gilt-faced Mummy Case of the Queen Nofretari.
- 16 The Temple of Ostris.
- 17 The Temple of Sethi.
- 18 The old and New Structures at Abydos.
- 19 The Temple of Denderah.
- 20 Denderah's Great Façade.
- 21 The Roof of Denderah.
- 22 The Hall of Columns.
- 23 The Façade, Interior and Hall of Denderah.
- 24 The Hypostyle Hall.
- 25 The Colossi of Thebes.
- 26 The Ramesseum.
- 27 A Broken Head of a Broken Race.
- 28 The Temple of Medinet-Abou.
- 29 The First Court of the Temple of Rameses III at Medinet-Abou.
- 30 Medinet-Abou, "The Palace of the King."
- 31 The Temple of Esneh.
- 32 The Shrine of the Temple at Edfou.
- 33 The Ptolemaic Temple of Assouan.
- 34 The Quarry of Syene.
- 35 Ruins of Philae.
- 36 A Grand Colonnade.
- 37 The Ruins of a Christian Church.

- 38 An Ancient and a Modern Temple.
- 39 The Quarry at Gertasse.
- 40 The Temple of Kalabsheh.
- 41 The Temple of Dendoor.
- 42 The Temple of Dendoor.
- 43 The Temple of Kirscheh.
- 44 The Temple of Dakkeh.
- 45 The Small Temple at Abou Simbel.
- 46 The Vast Interior.
- 47 Mt. Korosko.
- 48 The First Cataract.
- 49 The Second Cataract of the Nile.
- 50 A Stranded Boat.

### From Hebron to Bethel.

*Fifty Views with Lecture, \$25.*

- 1 Hebron.
- 2 The Mosque of Hebron.
- 3 A Vineyard of Eschol.
- 4 Abraham's Oak.
- 5 The Pools of Solomon.
- 6 Bethlehem.
- 7 The Birthplace of Christ.
- 8 The Field of the Shepherds.
- 9 The Wood Market.
- 10 The Christian Quarter.
- 11 The Jews' Quarter.
- 12 The Towers of David and of Jesus.
- 13 The Church of the Holy Sepulchre.
- 14 The Muristan.
- 15 A Carpenter Shop.
- 16 The Via Dolorosa.
- 17 The Arch of Ecce Homo.
- 18 The Armenian Convent or the House of Caiaphas.
- 19 The Coenaculum.
- 20 Walling Place of the Jews.
- 21 The Harem es Sherif and Temple Area.
- 22 Citadel, or Government Palace.
- 23 The Tower of Antonia.
- 24 David's Judgment Hall.
- 25 The Holy Rock.
- 26 The Mosque of El Aksa.
- 27 The Mosque of El Aksa.
- 28 The Saracenic Pulpit.
- 29 The Gate of the Chain.
- 30 The Road to Mar Saba and the Dead Sea.
- 31 Bethany.
- 32 A Glimpse toward the Dead Sea.
- 33 The Hills about Bethany.
- 34 The Tomb of Lazarus.
- 35 House of Mary and Martha.
- 36 Women of Bethany.
- 37 The Tomb of Rachael.
- 38 Convent of Mar Saba.
- 39 The Dead Sea.
- 40 The Dead Sea toward Moab.
- 41 Hot Lunch Tent.
- 42 The Pilgrims' Bathing Place, River Jordan.
- 43 On Jordan's Stormy Banks.
- 44 Jericho to Mount Quarantania.
- 45 The Plains of Jericho.
- 46 Fountain of Elisha.
- 47 Shiloh.
- 48 Bethel.
- 49 The Old Tower at Bethel.
- 50 Bethel, toward Jerusalem.

### Picturesque Palestine.

*Fifty Views with Lecture, \$25.*

- 1 Tomb of Joseph.
- 2 Jacob's Well.
- 3 Mount Gerizim.
- 4 Jacob's Tower.
- 5 A Group of Samaritan Women.
- 6 Samaritan Pentateuch.
- 7 A Group of Lepers.
- 8 Samaria and the Church of St. John.
- 9 The Old Colonnade.
- 10 Jenin.
- 11 Mount Gilboa.
- 12 The Plain of Dothan.
- 13 The Plain of Jezreel.
- 14 The Fountain of Jezreel.
- 15 The Fountain of Jezreel.
- 16 Shunem, and Little Hermon.
- 17 Garden of Spices.
- 18 Nain, and Mount Tabor.
- 19 Nazareth.
- 20 The Fountain of the Virgin.
- 21 The Church of the Annunciation.
- 22 The Chapel of St. Joseph.
- 23 Mount Tabor.
- 24 The Sea of Galilee.
- 25 Tiberias and the Sea of Galilee.
- 26 The Tiberias Synagogue.
- 27 Magdala.
- 28 Bethsaida and the Sea of Galilee.
- 29 Chorazin.
- 30 Bridge of Nabr-Hasbany.
- 31 Fountain of Dan.
- 32 The Ruins and Oaks Dan.
- 33 Caesarea Philippi.
- 34 Caesarea Philippi with the Citadel of Banias.
- 35 The Jordan at Caesarea Philippi.
- 36 Shrines of Caesarea Philippi.
- 37 Castle of Banias.
- 38 Mount Hermon.
- 39 Mount Hermon from the Damascus Road.
- 40 Mule and Buffalo Team.
- 41 A Druze Shepherd with a Lamb.
- 42 Olive Orchard near Damascus.
- 43 Reputed Scene of Paul's Conversion.
- 44 Scene of Paul's Escape.
- 45 The House of Naaman the Leper.
- 46 Damascus, Old and New.
- 47 The Old City Wall and the Abana River.
- 48 The Street which is called Straight.
- 49 The Lemonade Merchant.
- 50 The East Gate.

### Egypt, Old and New.

*Fifty Views with Lecture, \$25.*

- 1 Moslem Cemetery in the Pyramid Desert.
- 2 The Colonnade, Interior of the Mosque of Mohammed Ali.
- 3 The Tomb of Mariette Pasha, Boulak Museum Garden.

- 4 The Boulak Museum.
- 5 The Mummy of King Pinotem.
- 6 Menephtah, the Pharaoh of the Exodus.
- 7 Osiris, Hathor and Isis.
- 8 The Saloon of the Ancient Empire.
- 9 An Egyptian Banker.
- 10 The Site of Ancient Memphis.
- 11 Tombs of Tih.
- 12 The Step Pyramid at Sak-karah.
- 13 A Group of Pyramids South from Sak-karah.
- 14 The Pyramid of Cheops.
- 15 The Pyramid of Chephren from Cheops.
- 16 The Sphinx.
- 17 The Speos Artimedios at Beni Hassan.
- 18 The Interior of a Tomb at Beni Hassan.
- 19 The Portal of the Temple of Karnak.
- 20 Photographing Under Difficulties at Karnak.
- 21 The Grand Hall of Columns.
- 22 A Group of Arab Water Carriers.
- 23 Dier-El-Bahree at the Temple of Hatason.
- 24 A Party of Tourists at Lunch.
- 25 The Scarabeus.
- 26 The Temple of Medinet-Abou.
- 27 The Southern Colossus of Thebes.
- 28 A Back View of the Colossi of Thebes.
- 29 At Assouan on the Nile.
- 30 Among the Bazaars in Alexandria.
- 31 A Brace of Merchants.
- 32 The Camel Market at Assiout.
- 33 The Nubian Girl.
- 34 The Arab Sais and Watchman.
- 35 The Prize Beggar.
- 36 The Abode of this Prize Beggar.
- 37 A Cairene Funeral Procession.
- 38 The Mahmoudieh Canal.
- 39 The Nile Sakiyeh.
- 40 An Irrigating Well at Alexandria.
- 41 Biggeh, from the Temple of Isis at Philae.
- 42 Through the Ruins to Philae.
- 43 A Classic Group.
- 44 The South Colonnade and Pharaoh's Bed.
- 45 The Unfinished Obelisk, quarry of Syene.
- 46 The Two Arab Pilots of the "Saidieh."
- 47 Korosko.
- 48 A Canavan Village at Korosko.
- 49 Wady Halfa.
- 50 Farewell to the Orient.

#### Jerusalem on the Day of the Crucifixion.

- 1 Panoramic View of the City from the North, showing the Temple,

Judgment Hall, etc.; Golgotha forming the foreground, and the Mount of Olives being in the distance.

- 2 The City from the Northwest: the Mountains of Moab in the distance, and close to the observer are the Tents of some who have come to the Holy City to keep the Passover Feast.
  - 3 Still further Westward: the Palaces of Annas and of Caiaphas; Hill of Evil Counsel, etc.
  - 4 Mount Zion: Palace of Herod; Tower of David, etc.
  - 5 Ruins of an old Caravansary; Clump of Olive Trees bordering on the pool of Siloam, etc.
  - 6 The Road to Damascus: the Historic Peak of Mizpah far away in the distance; a Roman guard-house in the foreground, etc.
  - 7 The Hill on which Rested the Hamlet of Emmaus; the Cave of Jeremiah in the foreground; an Excited Multitude Proceeding to Calvary, etc.
  - 8 Calvary; the Crucifixion; Roman Soldiers; Mary; John, the Beloved Disciple, etc.
- Set of Eight Plain Slides, \$4.  
Set of Eight Colored Slides (3 inches round), \$12.  
Set of Eight Colored Slides (square), \$16.  
Descriptive Reading accompanies the Views.

#### Round About Jerusalem.

*Forty Views with Lecture, \$25.*

- 1 The Cotton Grotto, North Wall.
- 2 The Damascus Gate.
- 3 Peep over the Damascus Gate.
- 4 The Jaffa Gate.
- 5 An Oriental Kahn.
- 6 The Lepers' Quarter and Hospital.
- 7 The Upper Pool of Gihon.
- 8 The Valley of Hinnom from the Pool of Gihon.
- 9 The Valley of Hinnom from the Tomb.
- 10 Jerusalem, over the Wall, near Zion's Gate.
- 11 Zion's Gate.
- 12 The Southeast corner of the Temple Area.
- 13 The Rock Tomb, with Steps.
- 14 The Kedron Valley from the Potter's Field.
- 15 The Potter's Field.
- 16 Ru-Rogel, the Well of Joab.
- 17 Isaiah's Tree.
- 18 The Pool of Siloam.
- 19 Siloam and the Gardens.
- 20 The Valley of Jehoshaphat from Siloam.

- 21 The Tombs of Zachariah and St. James.
- 22 The Tomb of Absalom.
- 23 The Hill of Evil Counsel.
- 24 The Golden Gate.
- 25 The Golden Gate, Interior.
- 26 The Chapel of the Virgin.
- 27 The Garden of Gethsemane.
- 28 The Chapel of the Agony.
- 29 The Garden of Gethsemane.
- 30 The Garden of Gethsemane and Jerusalem.
- 31 St. Stephen's Gate.
- 32 Moslem Cemetery.
- 33 Scopus.
- 34 The Pool of Bethesda.
- 35 Herod's Gate.
- 36 The Grotto of Jeremiah.
- 37 Mount Calvary.
- 38 From Mount Calvary to Olivet.
- 39 Jerusalem from Mount Calvary.
- 40 The Tombs of the Kings.
- 41 Facade of the Tombs of Kings.
- 42 Rolling Stone at a Tomb Door.
- 43 The Muezzin Call.
- 44 The Church of the Ascension.
- 45 The Dome of the Ascension.
- 46 Valleys of Jehoshaphat and Hinnom.
- 47 Jerusalem, from the Mount of Olives—North.
- 48 Jerusalem, from the Mount of Olives—Centre.
- 49 Jerusalem, from the Mount of Olives—South.
- 50 The Mount of Olives.

#### The Taking of Petra.

*Price per Slide, plain 50c.; colored, round \$1.50, square \$2.*

- "Dead Petra in her hill-tomb sleeps,  
Her stones of emptiness remain;  
Around her sculptured mystery sweeps,  
The lonely waste of Edom's plain."—WHITTIER.
- 1 Breaking camp at Akabah.
  - 2 Wady Arabah from Elath.
  - 3 Wall of Defence. Wady El Ithim.
  - 4 The Pass through Wady El Ithim.
  - 5 A Midday rest in the Desert.
  - 6 Camels drinking and fighting for water at the well of Humelyumeh.
  - 7 A group of Moorish Pilgrims en route from Mecca, at the well of Humelyumeh.
  - 8 Rock-house and pictured rocks at Humelyumeh.
  - 9 The rock and well of Moses, Ain El Dalageh.
  - 10 A panorama of Petra from the east—sunrise.
  - 11 A panorama of Petra from the south-east—early morning.

- 12 Panorama of Petra and Jehel Haroun, Mount Hor.
- 13 Sunrise on ancient Edom. An antique village.
- 14 The Pool and Ruins of Ain El Raga.
- 15 A harricade of camels in battle array at Ain Gazalah, near Petra.
- 16 The three tombs, Necropolis of Petra.
- 17 The tomb of the four Pyramids, Necropolis of Petra.
- 18 A Petra Bedouin guard at the entrance of the Sik.
- 19 A view in the Gorge of the Sik, at Petra.
- 20 On the river Sik, Gorge of the Sik.
- 21 A first glimpse of the Kuznezh, through the Gorge of the Sik.
- 22 The Kuznezh—The Façade.
- 23 A group of Bedouin Sheykhs with horses and lances.
- 24 A preliminary glimpse of Petra.
- 25 A group of rock-temples near the theatre, Petra.
- 26 The theatre of Petra.
- 27 The view magnificent, Petra from the theatre.
- 28 Petra, east from the travelers' camp.
- 29 Petra, west from the travelers' camp.
- 30 Sheyk Salim, Chief of the Petra Bedouin, and his staff.
- 31 Our travelers' camp at Petra.
- 32 Temple of the urn, with the arched terrace.
- 33 Tombs, temples and cliffs south from the arched terrace.
- 34 The Corinthian Temple, Petra.
- 35 Temple of the three tiers of columns.
- 36 The Kasr Faroun and broken columns.
- 37 The Kasr Faroun—the exterior and arched doorway.
- 38 The Kasr Faroun—the arched doorway.
- 39 The Kasr Faroun—ruined interior.
- 40 The temples of nature and of Edom.
- 41 The temple of fluted columns.
- 42 A rock stairway and pulpit.
- 43 The pyramids and ruined fortress.
- 44 A sacrificial altar of Basal.
- 45 The ravine of the Dier, Petra.
- 46 A rock temple, interior.
- 47 The Dier from the rock-temple.
- 48 The Dier Façade.
- 49 Mount Hor and Aaron's tomb.
- 50 An unfinished rock temple.

### Stanley in Africa.

*With printed descriptive Lecture.*

- 1 Introduction.
- 2 Map of region explored.
- 3 Map showing the country traversed by Mr. Stanley.
- 4 Map of portion of Africa, showing Lieut. Cameron's route.
- 5 Mr. Stanley's Boat.
- 6 Mr. Stanley's Boat on the march.
- 7 Setting out from M'Schazy Haven to cross Lake Tanganyika.
- 8 Kisuna Waterfall, Lake Tanganyika.
- 9 The Peaks of Kungive Ukimziwo on Lake Tanganyika.
- 10 Arms and Arts of Africa.
- 11 Entrance to M'Schazy River. Camp of Expedition and Transport Vessels.
- 12 Hauling Canoes up Inkisi Falls.
- 13 The "Toss up."
- 14 Bumbireh hospitality.
- 15 Cutting a passage for Canoes.
- 16 The Village of Manyema.
- 17 Encamped in Caunthal Land.
- 18 The great Battle of Aruwimi River.
- 19 Naval Battle between the Waguuda and Wavuma.
- 20 The War Canoe on the River Congo.
- 21 Shooting the Rapids on the Congo.
- 22 The Dash across Unyoro.
- 23 Burial of Edward Pocock in hostile Turu.
- 24 Reception by Mtesa's Body Guard, Prime Ministers and Chiefs.
- 25 One foot in the Grave.
- 26 Distinguished Members of Mr. Stanley's Expedition.
- 27 Mr. Stanley and some of his African followers on Board H. M. S. Industry.
- 28 Portrait of Mr. Stanley from life.
- 29 Group of Mr. Stanley and his followers from life.
- 30 Stanley in Africa.
- 31 Map of Equatorial Africa.
- 32 Map of Congo.
- 33 Cameron's route.
- 34 The Lady Alice.
- 35 On the March.
- 36 Burial of E. Pocock.
- 37 Reception by Mtesa's Body Guard and Prime Ministers and Chiefs.
- 38 Bumbireh hospitality.
- 39 Naval Battle between the Waguuda and the Wavuma.
- 40 The dash across Unyoro.
- 41 The Kungive Peaks.
- 42 Entrance to M'Schazy River.
- 43 Setting out from M'Schazy River.
- 44 Kisuna Waterfall.
- 45 The Village of Manyema.
- 46 The Toss up.

- 47 The great war canoe on the Congo.
- 48 Encamped in Caunthal Land.
- 49 A narrow escape.
- 50 The great battle of the Aruwimi.
- 51 Shooting Rapids on the Congo.
- 52 Cutting a passage for canoes.
- 53 Hauling canoes uphill.
- 54 Mr. Stanley and some of his followers on board H. M. S. Industry.
- 55 Arms and arts of Africa.
- 56 Distinguished members of the expedition.
- 57 Portrait of Mr. Stanley, from life.
- 58 Group of Mr. Stanley and followers, from life.

### Modern Egypt and Its People.

*With printed descriptive Lecture.*

- 1 Introductory—Egypt.
- 2 Alexandria.
- 3 Plan of Ancient Alexandria.
- 4 Pompey's pillar.
- 5 The Grand Square.
- 6 Present site of Pompey's Pillar.
- 7 Mahmûdiyeh Canal.
- 8 Port Said.
- 9 Lesseps' Place.
- 10 Portrait of Count Lesseps.
- 11 Kantara.
- 12 Ismailia.
- 13 Ship passing through the Canal.
- 14 Suez—Entrance to Canal.
- 15 Cairo—General View.
- 16 The Market Place.
- 17 Street Scene—Donkey Boys.
- 18 Fanatic preaching to the people.
- 19 Professional Beggar.
- 20 Water Carriers—Group.
- 21 Camels.
- 22 Camel Drivers—Group.
- 23 The Fellahs (Peasants)—Group.
- 24 Wool Spinners—Group.
- 25 Egyptian Mechanics—Group.
- 26 Egyptian Woman and Child.
- 27 Bedouin Sheik.
- 28 Bedouin Women.
- 29 Miss Whatley's Arab School—Group.
- 30 Miss Whatley's Medical Mission—Group.
- 31 Dervishes—Group.
- 32 Dervishes dancing—Group.
- 33 Arab Café—Group.
- 34 Arab Shop.
- 35 Bridal Procession—Group.
- 36 A 12-year old Bridegroom—From Life.
- 37 Boy, Mother and Nurse—Group.
- 38 Khedive's Palace.
- 39 Old Cairo.
- 40 Pyramids.
- 41 Libyan Desert and Camels.
- 42 Nile Scenery.

- 43 Rock Tombs.
- 44 Road to the Tombs of the Kings—Thebes.
- 45 Mummies.
- 46 Irrigation of Land.
- 47 Arab Villagers.
- 48 Nubians—Group.
- 49 First Cataract.
- 50 Dahabeah—Home.

### China and the Chinese

*With printed descriptive Lecture.*

- 1 Map of China.
- 2 Great Wall of China.
- 3 Western Gate, Pekin.
- 4 Temple of Heaven, Pekin.
- 5 Theatre at Tien Tsin.
- 6 Playing at Shuttlecock with the feet.
- 7 Raree Show.
- 8 Chinkiang—General View.
- 9 Chinkiang—The Bund.
- 10 Silver Island.
- 11 City of Nankin.
- 12 Confucian Temple, Nankin.
- 13 Porcelain Tower, Nankin.
- 14 Avenue of Stone Warriors.
- 15 Ming Tombs.
- 16 A Chinese Soldier.
- 17 Mandarin and Family.
- 18 Mandarin in Official Robes.
- 19 Mandarin's Wife and Child.
- 20 Dinner at Mandarin's House.
- 21 Cat Sellers.
- 22 Rice Sellers.
- 23 A Frog Catcher.
- 24 A Tantal.
- 25 Punishment of the Bastinado.
- 26 Little Orphan Island.
- 27 Gun Boat Station.
- 28 Pagoda, Kien-Kiang.
- 29 I-Chang-Foo.
- 30 Hankow—The Bund.
- 31 Pagoda at Hankow.
- 32 Consulting the sticks of Fate.
- 33 Sorting Silk Cocoons.
- 34 Dyeing and Winding Silk.
- 35 Landing Place, Tea District.
- 36 Roadside Temple.
- 37 Roadside Inn.
- 38 Hamlet in Tea District.
- 39 A Tile Works.
- 40 Yang low Doong.
- 41 Curling the Leaf.
- 42 Picking the Tea.
- 43 Winnowing the Tea.
- 44 Sifting the Tea.
- 45 Packing the Tea.
- 46 Papering Brick Tea.
- 47 Packing Brick Tea.
- 48 Entrance to City of Amoy.
- 49 A Chinese Merchant.
- 50 A Comprodeore.
- 51 A Bookseller.
- 52 An Itinerant Barber.
- 53 Porter with Flowers.
- 54 A Watchman.
- 55 A Street in Canton.
- 56 A Cantonese Married Woman.
- 57 A Marriage Procession.
- 58 Opium Smoking.
- 59 Hong Kong.

### 60 Concluding Slide.

### Egypt.

*With printed descriptive Lecture.*

- 1 Introductory.
- 2 Alexandria—We land.
- 3 Alexandria—Pompey's Pillar.
- 4 Alexandria—Cleopatra's Needle.
- 5 Cairo—Road to the Citadel.
- 6 Cairo—Lattice Windows.
- 7 Cairo—View from the Citadel.
- 8 Cairo—Tomb of the Mamelooks.
- 9 Cairo—Tomb of the Caliphs.
- 10 Cairo—Mosque of Mohammed Ali.
- 11 Cairo—Fountain in the Mosque.
- 12 Cairo—Heliopolis.
- 13 Cairo—Suez Canal.
- 14 Cairo—Prince of Wales' Palace.
- 15 Cairo—Pyramids, crossing the Nile.
- 16 Cairo—View of Pyramids and Sphinx.
- 17 Cairo—Section of Pyramid.
- 18 Cairo—Ascent of the Pyramid.
- 19 Map of Egypt.
- 20 Nile—The Dahabeah, exterior.
- 21 Nile—The Dahabeah, interior.
- 22 Nile—A Cargo Boat.
- 23 Nile—Pyramids of Sakara.
- 24 Beni Hassan.
- 25 Beni Hassan—Sculptures.
- 26 Siout.
- 27 Nile—Water raising.
- 28 Abydos.
- 29 Abydos—Sculptures.
- 30 Dendera—General View.
- 31 Dendera—Porch of the Temple.
- 32 Thebes—Plan of the Ruins.
- 33 Thebes—Plan of a Temple.
- 34 Thebes—Memnonium, East Gate.
- 35 Thebes—Colossi.
- 36 Thebes—Medinet Abou, from Northwest.
- 37 Thebes—Medinet Abou, Hall of Columns.
- 38 Thebes—Medinet Abou, Christian Church.
- 39 Thebes—Luxor.
- 40 Thebes—Approach to Karnac.
- 41 Thebes—Karnac, Central Avenue.
- 42 Thebes—Karnac, Hall of Columns.
- 43 Thebes—South Wall of Court of Sheshonk.
- 44 Thebes—Cartouche of Rehoboam.
- 45 Esneh.
- 46 Edfou.
- 47 Konm Ombou.
- 48 Assouan—Isle of Elephantine.
- 49 Philae—Pharaoh's Bed.

- 50 Philae—Great Propylon and Outer Court.
- 51 Philae—Colonnade of Temple of Isis.
- 52 Philae—View of foot of Cataract.
- 53 Philae—View of, from Biggeh.
- 54 Philae—Biggeh and Nubians.
- 55 Philae—View of, looking North.
- 56 Nubia—Palm and Nubians.
- 57 Nubia—Arab at Prayer.
- 58 Nubia—Rock Temple at Kalabsee.
- 59 Nubia—Ipsamboul, Small Temple.
- 60 Nubia—Ipsamboul, Great Temple.

### Route to India.

*With printed descriptive Lecture.*

- 1 Map of Europe, showing routes.
- 2 Serapis.
- 3 Gibraltar.
- 4 Malta.
- 5 Castellamare, Brindisi.
- 6 Acropolis, Athens.
- 7 Port Said.
- 8 El Kantara.
- 9 Sphinx and Great Pyramid.
- 10 Aden.
- 11 Somala Boys diving.
- 12 Map of India, showing route.
- 13 Bombay—the Mazagon Road.
- 14 Bombay—Fort and Esplanade.
- 15 Snake Charmers.
- 16 Caves of Elephanta.
- 17 The Prince Dining in the Caves of Elephanta.
- 18 Poonah.
- 19 Parbutta, Poonah.
- 20 Tower of Silence.
- 21 Baroda—the Prince's Entrance.
- 22 Baroda—State Elephants drawn up at the Arena.
- 23 Baroda—Elephant Fight.
- 24 Baroda—Hunting with Cheekahs.
- 25 Colombo.
- 26 Kandy—Old Palace of Sacred Tooth.
- 27 Devil's Dance at the Private Perchara.
- 28 Elephant Hunting, Ceylon.
- 29 Madras.
- 30 Tank and Temple, Cojeveram.
- 31 Temple at Balloor.
- 32 Great Temple at Bobeneswar.
- 33 Juggernaut.
- 34 Calcutta—Government House.
- 35 Portrait of Nawab, or Mohammedan Prince.
- 36 Reception of Native Princes.
- 37 Nautch Girl.
- 38 Benares—Ghat.
- 39 Benares—Group of Priests taken on Steps of Temple.

- 40 Portrait of Hindoo Rajah.
- 41 Cawnpore—Ghat.
- 42 Cawnpore—Memorial Well.
- 43 Bithoor—Nana Sahib's Home.
- 44 Lucknow—Bird's-eye View.
- 45 The Imambara.
- 46 Tahoot.
- 47 Palace of Akhar.
- 48 Taj Mahal.
- 49 Chandni Chuck, principal Street in Delhi.
- 50 Delhi—Gate of the Fort.
- 51 Jumma Musjeed.
- 52 Kootuh Minar.
- 53 Umritzur.
- 54 Marble Pavilion, Fort Guinore, Lahore.
- 55 Runjeet Sing's Tomb.
- 56 Portrait of the Prince of Wales.

### India.

*With printed descriptive Lecture.*

Introduction—Map of India.

- 1 Glaciers at Panjtarni, near Ummernath, Cashmere.
- 2 The Cave of Ummernath.
- 3 Coolies crossing a Bridge of Frozen Soow.
- 4 View between Sonamurg and Baltal, Cashmere.
- 5 Cascades below Sonamurg, Cashmere.
- 6 Coolies crossing a Rustic Bridge, Cashmere.
- 7 Rope Bridge, Scinde Valley, Cashmere.
- 8 The Visitors' Bungalows up the Jhelum, Cashmere.
- 9 Ancient Temple, built B. C.
- 10 Ancient Temple at Pandretton.
- 11 Foliage on the Apple Tree Canal, Cashmere.
- 12 Chunar Trees in the Shalimar Gardens, Cashmere.
- 13 Marble Pavilion in Shalimar Gardens.
- 14 Zainul's Tomb.
- 15 The River Jhelum, opposite the Maharajah's Palace, Sreenugger.
- 16 Bridge of Shops, Sreenugger, Cashmere.
- 17 The Maharajah's Palace, Sreenugger.
- 18 State Barge on the Apple Tree Canal.
- 19 Group of Cashmere Boatmen and Women.
- 20 Group of Cashmere Musicians, etc.
- 21 Ruins of Martand (general view).
- 22 Lahore Railway Station.
- 23 Large Mosque, near Runjeet Sing's Tomb, Lahore.
- 24 Marble Pavilion in the Fort Gardens, Lahore.
- 25 Runjeet Sing's Tomb, Lahore.
- 26 Jehangir's Tomb, Shadra Gardeos, Lahore.
- 27 Tank and Pavilion in Shalimar Gardens, Lahore.

- 28 Umritzur, showing portion of Tank.
- 29 Entrance to the Golden Temple, Umritzur.
- 30 Golden Temple.
- 31 The Barracks, Murree.
- 31a View of the Bazaar from the Barracks, Murree.
- 32 Temple at Kurterpoor.
- 32a A Fakir.
- 33 Sutlej Bridge, Delhi Railway.
- 34 The City of Delhi from Jumma Musjeed.
- 35 The Chandni Chowk, principal street in Delhi.
- 36 Delhi Gate of the Fort.
- 37 The King's Palace, Delhi.
- 38 The Jumma Musjeed, or Great Mosque, Delhi.
- 39 The Cashmere Gate, Delhi.
- 39a Inside of Gate.
- 40 Sufter Jung's Tomb.
- 41 The Kootuh Minar.
- 42 Altomsh's Tomb, Kootuh.
- 43 Large Arch and Iron Pillar, near the Kootuh Minar.
- 44 Diving Well at the Kootuh.
- 45 Agra—the Palace of Akhar Khan.
- 46 and 46a The Taj Mahal, near Agra.
- 47 Tomb of Prince Etmad Dowlah, Agra.
- 48 Cawnpore—Distant View of the Memorial Well.
- 48a Cawnpore—Interior View of Memorial Well.
- 49 Cawnpore—Suttee Chowra Ghat—Scene of Massacre.
- 50 Bithoor—View on the River Ganges (Nana Sahib's Home).

### Mysore.

*With printed descriptive Lecture.*

- 1 Brama—Vishnu—Siva.
- 2 The Tomb of Hyder Ali Khan and Tippoo Sultan.
- 3 The Musjeed connected with Tippoo Sultan's Tomb.
- 4 The Fort of Seringapatam from the Aqueduct Bridge, showing the Great Cavalier.
- 5 The Daria Dowlut, or Garden House of Tippoo Sultan, near Seringapatam. The Duke of Wellington resided here after the taking of Seringapatam.
- 6 The Wellesley Bridge.
- 7 The Gateway in the Fort in which Tippoo Sultan was killed.
- 8 The Jumma Musjeed, built by Tippoo Sultan, in the Fort.
- 9 The Mugharraah at Colar.
- 10 A Mahomedan Burial Ground.
- 11 Hindoo Temple at Colar.
- 12 Part of the Inner Temple.
- 13 Temple at Deranghirri.
- 14 Golden Shrine.

- 15 View of the town of Mysore.
- 16 The Old Palace of the Mysore Rajah.
- 17 Temple near the Foot of Nundydroog.
- 18 Temple to the right of Nundydroog.
- 19 Temple to the left of Nundydroog.
- 20 Temple at Devoydroog.
- 21 Temple at Mudghirri.
- 22 Hill Fort at Mudghirri.
- 23 A Gigantic Mango Tree.
- 24 Group, taken at Hassan.
- 25 Temple at Halibeeb, East Front.
- 26 View of the Muntapum.
- 27 The Great Bull at Halibeeb.
- 28 A part of the South Side of the Temple.
- 29 The Jain, or Buddhist Temple, at Halibeeb.
- 30 View of the East Side of Bailloor Temple.
- 31 Nearer View of the Temple.
- 32 Old Gateway at the Bailloor Temple.
- 33 Seerah—Tomb of Mullick Rhyman.
- 34 The usual small Mosque attached to these Tombs.
- 35 Views of Tombs in the immense Burial Ground at Seerah.
- 36 The Jumma Musjeed 'at Seerah.
- 37 A View in the Fort of Chittledroog.
- 38 View in the Fort of Chittledroog.
- 39 Temple at Hurryhur.
- 40 The Ulsoor Pagoda at Bangalore.
- 41 The Gunga Chooka Fall.
- 42 Part of the Burr Chooka Fall.
- 43 The Great Temple of Juggernaut.
- 44 The Great Temple at Bobeneswar, called Ling Raj.
- 45 Entrance Pagoda to the Temple at Little Conjeveram.
- 46 Tank in the Courtyard of the Last Temple.
- 47 Muntapum of the same Temple.
- 48 Entrance Temple at Great Conjeveram.
- 49 Tank in the Court of the last Temple.
- 50 A Ta-hoot, or Tazcer.
- 51 Mr. Brett's Residence.

### Central Africa.

*With printed descriptive Lecture.*

- 1 Africa—Map to show the routes of modern explorers.
- 2 Portraits of Cameron and other modern explorers.
- 3 African Scenery—Victoria Falls of the Zamhesi River.
- 4 African Scenery—Bird's Eye View of the Victoria Falls.

- 5 African Scenery—View<sup>s</sup> on Lake Tanganyika.
- 6 African Scenery—Views on Lake Tanganyika.
- 7 African Scenery—The Kebrabasa Rapids.
- 8 African Scenery—The Screw-Palm and Climbing Plants.
- 9 African Scenery—View of Myolo.
- 10 African Fauna—Lions and Buffalo.
- 11 African Fauna—The Hunted Elephant.
- 12 African Fauna—The Hippopotamus.
- 13 African Fauna—A Native Deer Hunt.
- 14 African Fauna—Zebra, Deer, &c.
- 15 African Fauna—Antelopes.
- 16 African Fauna—The Striped Eland.
- 17 African Fauna—Domestic Cattle.
- 18 African People—A Native King and Minstrel.
- 19 African People—Mrua Medicine Man.
- 20 African People—Interviewing an Idol.
- 21 African People—Heads of the People.
- 22 African People—Interviewing a Native King.
- 23 African People—King Kasongo's Levee.
- 24 African People—A Wedding Dance at Kibalyeli.
- 25 African People—Dance of Pegazi at Kiwakasongo.
- 26 African People—King Munza and his Wives.
- 27 African People—Dance of Zulus.
- 28 African People—Market at Kawele.
- 29 African Houses—Lake Dwelling, Moheya.
- 30 African Houses—Niam-niam Hamlet.
- 31 African Houses—Bongo Village.
- 32 African Houses—Dinka Village.
- 33 African Customs—Hottentots Hunting, etc.
- 34 African Customs—Zulu War Exercises.
- 35 African Customs—Music of the Marimba, etc.
- 36 African Customs—Fishing on the Rovuma.
- 37 The Curse of Africa—Slavery; the Hunters.
- 38 The Curse of Africa—Slavery; the Captives.
- 39 African Travel—Crossing the Lovoi.
- 40 African Travel—A Lame Day.
- 41 African Travel—The Grass Barrier.
- 42 African Travel—Crossing Rivers.
- 43 African Travel—An Unexpected Interruption.
- 44 African Travel—A Narrow Escape.
- 45 African Travel—The Makata Swamp.

- 46 African Travel—Compiling the Journal.
- 47 African Travel—An Old Explorer Discovered.
- 48 African Travel—The Despatches in Danger.
- 49 African Travel—The Bringing Home of Livingstone.
- 50 African Travel—The Coming Home of Cameron.

### A Year Within the Arctic Circle.

*With printed descriptive Lecture.*

- 1 Introductory.
- 2 Portsmouth Harbor, May 29, 1875.
- 3 Farewell.
- 4 Captain Nares.
- 5 Captain Stephenson and others.
- 6 Apparatus, Sledges, etc.
- 7 The Crow's Nest.
- 8 Chart of the Course.
- 9 H. M. Ships "Alert" and "Discovery."
- 10 Godhavn, Sailors and Eskimo.
- 11 Upernavik.
- 12 The "Pandora"—"Arctic Post Office."
- 13 Discovery leading through the Ice.
- 14 "Alert" Aground—Kennedy Channel.
- 15 "Alert" Nipped—Off Cape Beechy.
- 16 "Discovery" Aground—Discovery Bay.
- 17 "Discovery" left at Winter Quarters.
- 18 "Alert" Hoisting Colors—Off Cape Union.
- 19 "Alert"—Winter Quarters.
- 20 Sketch Map of Winter Quarters, etc.
- 21 Discovery—"The Rink."
- 22 Sledge to Rawson Point.
- 23 "High Street" between the Two Ships.
- 24 Road between the Two Ships.
- 25 "Discovery" Sledge Party.
- 26 Captain Hall's Grave.
- 27 "Alert" Protected by Floebergs.
- 28 "Alert"—"The Mile."
- 29 "Alert" The Deck.
- 30 "Alert" Theatricals.
- 31 "Alert"—November 5th, 1875.
- 32 "Alert"—Sunday Morning.
- 33 Sledge Traveling—Fastening the Dogs.
- 34 Sledge Traveling—Western Sledge Party.
- 35 Sledge Traveling—Halt for Lunch.
- 36 Sledge Traveling—Camping for Night.
- 37 Sledge Traveling—Night in the Tent.
- 38 Sledge Traveling—An Evening Call.
- 39 Sledge Traveling—An Invalid on a Sledge.

- 40 Sledge Traveling—Going back for Aid.
- 41 Sledge Traveling—Funeral in the Ice.
- 42 Sledge Traveling—Funeral of Hans.
- 43 Sledge Traveling—Lieutenant Parr going for Help.
- 44 Sledge Traveling—High Way to the North.
- 45 Sledge Traveling—A Push for the Pole.
- 46 The Sea of Ancient Ice.
- 47 Homeward Bound—Cutting through the Ice.
- 48 Homeward Bound—Free of the Ice.
- 49 Portsmouth Harbor, November 2, 1876.
- 50 Conclusion.

### Round the World in a Yacht.

*With printed descriptive Lecture.*

- 1 The "Sunbeam."
- 2 The Deck.
- 3 Deck boudoir.
- 4 The nursery.
- 5 State room.
- 6 Dining saloon.
- 7 Canary Islands.
- 8 Tarafal Bay.
- 9 Crossing the Line.
- 10 Rio de Janeiro.
- 11 Buenos Ayres.
- 12 Lassoing wild horses.
- 13 A ship on fire.
- 14 Rescued sailors.
- 15 Cape Forward.
- 16 Bartering with Paigians.
- 17 Unfit Bay.
- 18 Ocean sport.
- 19 Baths of Caquesnes.
- 20 The Andes.
- 21 The children's hour.
- 22 Coral Islands.
- 23 Tahiti.
- 24 Hawaii.
- 25 Volcano by night.
- 26 Leap a Hillo.
- 27 Oahu.
- 28 Amateur navigation.
- 29 Keeping the journal.
- 30 Curios.
- 31 Japan—the Jinrikisha.
- 32 A family group.
- 33 Arrima.
- 34 Alaska.
- 35 China, clearing the decks.
- 36 Pearl River.
- 37 Pagoda.
- 38 Chock-sing-toon.
- 39 Singapore.
- 40 Malacca.
- 41 Ceylon.
- 42 Aden—Samouli Arab.
- 43 Red Sea.
- 44 The track of the "Sunbeam."
- 45 Home.

### Round the World with a Camera.

*With printed descriptive Lecture.*

- 1 Chart.
- 2 London.
- 3 Gibraltar.
- 4 Naples.

- 5 Valetta.
- 6 Constantinople.
- 7 Port Said.
- 8 Cairo.
- 9 Pyramid and Sphinx.
- 10 Group on Board the "Cuzco."
- 11 Diego Garcia.
- 12 Group on Diego.
- 13 New Plymouth, New Zealand.
- 14 Whare.
- 15 Group.
- 16 Bush.
- 17 "Chapman's" (Bush and River).
- 18 Bush.
- 19 Maori Girls.
- 20 Auckland Harbor.
- 21 Tauranga.
- 22 White Terrace (A).
- 23 White Terrace (B).
- 24 White Terrace (C).
- 25 White Terrace (D).
- 26 White Terrace (E). Mud Hills.
- 27 Pink Terrace (F).
- 28 Pink Terrace (G).
- 29 Pink Terrace (H).
- 30 Tiki teri.
- 31 White Island.
- 32 Group of Maories.
- 33 "Sugar Loaves," New Plymouth.
- 34 Sea Piece.
- 35 Parihaka—Maori Capital.
- 36 Wellington.
- 37 Auckland from North Shore.
- 38 Waiwera.
- 39 Trees at Honolulu.
- 40 Hotel at Honolulu.
- 41 View from Tower of Hotel.
- 42 Palace, Honolulu.
- 43 San Francisco.
- 44 At Clarke's, California.
- 45 Grizzly Giant.
- 46 Wawona—Big Tree.
- 47 Mist in the Yosemite.
- 48 From Photographer's Point.
- 49 Merced River.
- 50 Mirror Lake.
- 51 North Dome and River Merced.
- 52 Horseshoe Falls, Niagara.
- 53 American Falls, Niagara.
- 54 Rapids, Niagara.
- 55 Broadway, New York.
- 56 Brooklyn Bridge.
- 57 Washington, the Capitol.
- 58 Iceberg.
- 59 Mersey.
- 60 Home.

# **Rome, Ancient and Modern.**

*With printed descriptive Lecture.*

- 1 Entry to the Forum, by the Via Sacra.
- 2 Interior of the Forum, Temples of Saturn and Vespasian.
- 3 General View of the Coliseum.
- 4 Interior of the Coliseum.
- 5 Arch of Titus.
- 6 Bas-reliefs on the Arch of Titus.
- 7 Arch of Constantine.
- 8 Arch of Septimius Severus.

- 9 Column of Trajan.
- 10 The Applan Way, Mole of Cecilia Metella.
- 11 Pyramid of Caius Cestius.
- 12 Subterranean Galleries and Loculi of the Catacomb of St. Agnes.
- 13 Painting of the Tablinum of Livia.
- 14 View of the Tiber, in front of the Cloaca Maxima.
- 15 Temple of Antonius.
- 16 The Roman Forum.
- 17 Aventine Mount and St. Sabina.
- 18 View from the Palatine.
- 19 Gate of St. Paul, or Ostiensis.
- 20 The Fountain of the Trevi.
- 21 The Market of the Piazza Navona.
- 22 Piazza Navona and the Church of St. Agnes.
- 23 Women of the Roman Campagna.
- 24 The Beatrice di Cenci, by Guido Reni.
- 25 Family of Beggars.
- 26 Caldarium of the Baths of Caracalla.
- 27 View of the Portico of the Academy.
- 28 Interior of the Church of St. Paul, extramuros.
- 29 Interior of St. Clement's.
- 30 Altar and Monument of St. Cecilia.
- 31 Mausoleum of Julius II., the Moses of Michael Angelo.
- 32 The Great Steps of Santa Maria of the Capitol.
- 33 The Bambino.
- 34 The State Carriage of the Pope.
- 35 Church of St. John Lateran, Penitents ascending the Sacred staircase.
- 36 Steps of the Senatorial Palace, Tarpeian Rock.
- 37 Barber in the open air.
- 38 Playing at Bowls.
- 39 Awaiting the Illuminations.
- 40 Bridge and Castle of St. Angelo.
- 41 The Colonnades of St. Peter.
- 42 The Piazza of St. Peter, at the Great Benediction.
- 43 Interior of St. Peter's.
- 44 The Nave of St. Peter's.
- 45 The Pope at the feet of St. Peter.
- 46 The Vatican Library.
- 47 Great Gallery of the Vatican Library.
- 48 A Cardinal entering the Vatican.
- 49 The Gallery of Maps, Vatican.
- 50 The Museo Pio-Clementino.

# **Ireland.**

*Lecture No. 1.—Dublin, Wicklow, Kilkenny, etc.*

- 1 Kingston Harbor, arrival of Mail Steamer.
- 2 An Irish Jaunting Car.
- 3 Sackville Street, Dublin (instantaneous).

- 4 General Post Office and Nelson's Pillar.
- 5 Grafton Street (instantaneous) Dublin.
- 6 Bank of Ireland, old Houses of Parliament and Statue of Henry Grattan, Dublin.
- 7 Trinity College, Dublin.
- 8 St. Patrick's Cathedral, Dublin.
- 9 St. Patrick's Cathedral, the Choir, Dublin.
- 10 Christ Church Cathedral, Dublin.
- 11 The Four Courts, Dublin.
- 12 The Custom House, Dublin.
- 13 O'Connell's Monument, Glasnevin Cemetery, Dublin.
- 14 The Vice-regal Lodge, Phoenix Park, Dublin.
- 15 Killiney and the Vale of Shanganagh, Co. Dublin.
- 16 Bray and Bray Head, Co. Wicklow.
- 17 The Scalp, Co. Wicklow.
- 18 Cottage in the Dargle (summer), Co. Wicklow.
- 19 Cottage in the Dargle (winter), Co. Wicklow.
- 20 The Dargle, Co. Wicklow.
- 21 Enniskerry, Co. Wicklow.
- 22 Powerscourt Waterfall, Co. Wicklow.
- 23 Powerscourt House, Co. Wicklow.
- 24 The Vale of Clara, Co. Wicklow.
- 25 The Valley of Glendalough, and the ruins of the seven Churches, Co. Wicklow.
- 26 The Vale of Avoca, Co. Wicklow.
- 27 The Lion Arch, Castle Howard, Vale of Avoca, Co. Wicklow.
- 28 Johnstown Castle, the seat of the Earl of Granard.
- 29 Kilkenny, birdseye view.
- 30 Kilkenny, the seat of the Marquis of Ormonde.
- 31 Jerpoint Abbey, Co. Kilkenny.
- 32 Lismore Castle, Co. Waterford.
- 33 Ruins on the Rock of Cashel, Co. Tipperary.
- 34 Holycross Abbey, Co. Tipperary.
- 35 Patrick Street, Cork.
- 36 Patrick's Bridge, showing Father Mathew's Statue.
- 37 St. Flinn-Barr's Cathedral, Cork.
- 38 Shandon Steeple, Cork.
- 39 The Mardyke Walk, Cork.
- 40 Queenstown Harbor, showing Haubowline and Spike Islands.
- 41 Sir Walter Raleigh's House, Youghal.
- 42 Blarney Castle, Co. Cork.
- 43 Glengarriff Harbor, Bantry Bay.
- 44 Croinwell's Bridge, Glengarriff.
- 45 Glengarriff Waterfall.

- 46 General View, Lakes of Killarney.
- 47 The Upper Lake, Killarney.
- 48 The Eagle's Nest Mountain, Killarney.
- 49 The Old Weir Bridge, Shooting the Rapids, Killarney.
- 50 The Middle Lake, from Dinis Island Killarney.
- 51 The Colleen Bawn Cave, Middle Lake, Killarney.
- 52 Muckross Abbey, Killarney.
- 53 Interior of Muckross Abbey, Killarney.
- 54 Glenna Bay, Killarney.
- 55 O'Sullivan's Cascade, Killarney.
- 56 Bricken Bridge, Killarney.
- 57 The Meeting of the Waters, Killarney.
- 58 Ross Castle, Killarney.
- 59 Derrycunibby Cottage and Waterfall, Killarney.
- 60 The Gap of Dunloe, Killarney.

### Ireland.

#### Lecture No. 2.—North and West.

- 1 The Boyne Viaduct at Drogheda, Co. Louth.
- 2 Ancient Cross and Round Tower at Monasterboice, Co. Louth.
- 3 Warrenpoint, Co. Down.
- 4 Restrevor Quay and Mourne Hotel, Co. Down.
- 5 Carlingford Lough, Co. Down.
- 6 Armagh, showing Cathedral.
- 7 Donegal Place, Belfast.
- 8 The Albert Memorial, Belfast.
- 9 The Queen's College, Belfast.
- 10 Shane's Castle, Antrim.
- 11 Garraun Tower, the seat of the Marchioness of Londonderry.
- 12 The Rope Bridge, Carrickarede, Co. Antrim.
- 13 General View of the Great Causeway, Giant's Causeway.
- 14 Lord Antrim's Parlor.
- 15 The Honeycomb.
- 16 The Wishing Chair.
- 17 The Ladies' Fan.
- 18 The Causeway Gate.
- 19 The Giant's Well.
- 20 Dunluce Castle.
- 21 Londonderry, Lough Foyle.
- 22 The Cathedral, Londonderry.
- 23 Walker's Monument, Londonderry.
- 24 Bishop's Gate, Londonderry.
- 25 Horn Head, Donegal.
- 26 Errigal Mountain, Donegal.
- 27 Ruins on Devenish Island, Lough Erne, Co. Fermanagh.
- 28 Holy Well of Tubber-na-tha, near Sligo.

- 29 Glencar Waterfall, near Sligo.
- 30 Boyle Abbey, Co. Roscommon.
- 31 Kylesmore Castle, the seat of Mitchell Henry, Esq., M. P., Connemara.
- 32 Kylesmore Lake, Connemara.
- 33 Ballinabinech and Lake, Connemara.
- 34 The Killarney Bay, Connemara.
- 35 Dugort, Achill and Slieve Mor Mountains.
- 36 Sunset on Achill Sound.
- 37 Rosserk Abbey, Co. Mayo.
- 38 Cong Abbey, Co. Galway.
- 39 The Fish Market, Galway.
- 40 The Cliffs of Moher, Co. Clare.
- 41 The Spa Well, Lisdoonvarna, Co. Clare.
- 42 The Spectacle Bridge, Lisdoonvarna, Co. Clare.
- 43 Kilkee, Co. Clare.
- 44 The Natural Bridges of Ross, Co. Clare.
- 45 Killaloe, on the Shannon, Co. Limerick.
- 46 Rapids of the Shannon at Castle Connell, Co. Limerick.
- 47 Askeaton Abbey, "the Nave," Co. Limerick.
- 48 Georges' Street, Limerick.
- 49 King John's Castle and Shomond Bridge, Limerick.
- 50 The Treaty Stone, Limerick.

### Western Norway.

#### With printed descriptive Lecture.

- 1 Nordfjord, Oldendal, Brynstad Sæter.
- 2 Nordfjord, View down Oldendal.
- 3 Nordfjord, Foot of Bricksdal Glacier.
- 4 Nordfjord, Children and Kids, Bricksdal.
- 5 Nordfjord, View up the Loen-Vand.
- 6 Nordfjord, Icefall, Kjen-dalsbæ, Lodal.
- 7 Nordfjord, on the Loen-Vand.
- 8 Geiranger Fjord, the Knivsflaafosse.
- 9 Waterfall on the Geiranger Fjord.
- 10 View up the Geiranger Fjord.
- 11 Søndmore, near Fiselstad-Hougen.
- 12 Søndmore, Fiselstad-Hougen.
- 13 Søndmore, Pass to Oie, and the Olenibba.
- 14 Søndmore, Oie and Norngsdal.
- 15 Søndmore, on Pass, Orstenvik to Standal.
- 16 Søndmore, Standal and the Hjorendfjord.
- 17 Molde, and Moldefjord, from the Bæknashaug.
- 18 Molde, from one of the Islands.
- 19 Molde, and Moldefjord, from the Varde.

- 20 Romsdal, Hotel Aak and the Romsdalshorn.
- 21 Romsdal, the Trolltinder.
- 22 Romsdal, from Top of Middags-Hougen.
- 23 Romsdal, View on the Rauma.
- 24 Romsdal, near Horgeheim.
- 25 Romsdal, The Vermofos.
- 26 Jotunheim, The Semmel-tind.
- 27 Jotunheim, Gjendebod and Svartdalspig.
- 28 Jotunheim, Group at Gjendebod.
- 29 Jotunheim, Gjendebod from Svartdal.
- 30 Jotunheim, Eidsbugaden.
- 31 Jotunheim, from the Skinegg, looking W.
- 32 Sognefjord, The Vettisfos, from below.
- 33 Sognefjord, The Afdalfos, near Vetti.
- 34 Sognefjord, The Gjellefos, near Vetti.
- 35 Sognefjord, from the Hotel Door, Gudvangen.
- 36 Hardangerfjord, Odde and Sor Fjord.
- 37 Hardangerfjord, Married Women, Odde.
- 38 Hardangerfjord, Girl, Odde.
- 39 Hardangerfjord, Skjægedalsfos.
- 40 Hardangerfjord, Skjægedalsfos.

### Picturesque Holland.

#### With printed descriptive Lecture.

- 1 Holland from the steamer.
- 2 Rotterdam—The Boom-pjes.
- 3 Rotterdam—The Leuve Haven Canal.
- 4 Rotterdam—The Oude Haven Canal.
- 5 Rotterdam—Old house in the market place.
- 6 Rotterdam—The Spui-water Canal.
- 7 Rotterdam—The Delfsche-vart Canal.
- 8 Rotterdam—The flower market.
- 9 A peasant woman's head-dress.
- 10 Dordrecht—A bit of Dordt (Canal).
- 11 Dordrecht—The cathedral.
- 12 Dordrecht—A wind saw-mill.
- 13 Delft—The town hall.
- 14 Delft—The east gate.
- 15 Scheveningen—The village street.
- 16 Scheveningen from the lighthouse.
- 17 Scheveningen fishing boats.
- 18 Scheveningen beach on a summer morning.
- 19 Leyden—The town hall.
- 20 Haarlem cathedral and market place.
- 21 Windmill near Haarlem.
- 22 Alkmaar town hall and canal.
- 23 A rustic cart drawn by dogs.



- 24 A North Holland farm.
- 25 One of the North Holland dog carts.
- 26 Hoorn—The harbor, etc.
- 27 Hoorn—The old water-gate.
- 28 Marken village from the harbor.
- 29 Marken—The little boys.
- 30 Marken—Some of the little girls.
- 31 A family group of Marken people.
- 32 Marken men and girls in holiday attire.
- 33 Marken girls and boys in their best clothes.
- 34 Amsterdam from the harbor.
- 35 Amsterdam—Prins Hendrik Kade.
- 36 Amsterdam—Damrak, the street.
- 37 Landing the morning milk, Amsterdam.
- 38 A Volendam fisherman.
- 39 Amsterdam—View on the Singel canal.
- 40 Amsterdam—Flowermarket on the Singel.
- 41 Montel Baens Tower, Amsterdam.
- 42 Amsterdam—Old weigh house and market.
- 43 Amsterdam—The fish market quay.
- 44 Amsterdam—The new church from north.
- 45 Amsterdam—The river Amstel.
- 46 Amsterdam—The vegetable market.
- 47 Zandam from the harbor.
- 48 A sailing barge on the Zuyder Zee.
- 49 Utrecht Cathedral tower, and town hall.
- 50 Utrecht—View along the old canal.

### The Rhine.

#### With descriptive Lecture.

- 1 Cologne—The Cathedral from Southeast.
- 2 Cologne—The Cathedral from South.
- 3 Cologne—The Cathedral from St. Martin's Church.
- 4 The Cathedral from Northwest.
- 5 Cologne—The Cathedral—The Interior.
- 6 Cologne—Cathedral. The South Portals.
- 7 Cologne—Cathedral. The Central Portal. West Front.
- 8 Cologne and Bridge of Boats.
- 9 Cologne—St. Martin's Church.
- 10 Bonn, with the Ferry.
- 11 Drachenfels, with Seven Mountains.
- 12 Remagen. Apollinariskirche.
- 13 Andernach.
- 14 Coblenz—From above Rhine Bridge.
- 15 Coblenz—Ehrenbreitstein, with Bridge of Boats.

- 16 Coblenz—Ehrenbreitstein, from above Thal.
- 17 Coblenz—Thal and Coblenz.
- 18 Castle of Stolzenfels.
- 19 Oberlahnstein and Stolzenfels Castle.
- 20 Ems.
- 21 Marksburg Castle.
- 22 Boppard.
- 23 St. Goar.
- 24 St. Goar—Rheinfels and St. Goar.
- 25 St. Goar—Rheinfels Castle.
- 26 Lurlei Rock.
- 27 Oberwesel.
- 28 Oberwesel—Schönburg Castle.
- 29 Caub.
- 30 Bacharach.
- 31 Sooneck Castle.
- 32 Rheinstein Castle.
- 33 Bingen.
- 34 Wiesbaden.
- 35 Wiesbaden—Greek Church.
- 36 Mayence.
- 37 Mayence—The Cathedral.
- 38 Worms—The Cathedral.
- 39 Worms—Luther's Monument.
- 40 Worms—Luther's Tree.
- 41 Heidelberg—The Castle from near Molkenkur.
- 42 Heidelberg—General View from Geistburg.
- 43 Heidelberg—General View from Helligenberg.
- 44 Heidelberg—The Castle. Frederick's Building.
- 45 Heidelberg—The Castle. Otto Henry's Building.
- 46 Heidelberg—Entrance to Otto Henry's Building.
- 47 Heidelberg, from Elizabeth's Terrace.
- 48 Baden-Baden—General View from Prince Solms's Castle.
- 49 Baden-Baden—General View from Leopoldshöhe.
- 50 Freiburg—The Cathedral.
- 51 Strassburg—The Cathedral.
- 52 Strassburg Cathedral—The Central Porch.
- 53 Bâle—The Upper Bridge.
- 54 Bâle—The Cathedral.
- 55 Bâle—St. Paul's Gate.
- 56 Neuhausen—The Rhine Falls.
- 57 Neuhausen—The Rhine from above the Falls.
- 58 Schaffhausen—From the High Rock.
- 59 Constance—The Rhine Bridge.
- 60 Constance—From the Cathedral Tower.

### The Hardanger Fjord, Norway.

#### With descriptive Lecture.

- 1 Stavanger.
- 2 Bergen. No. 1.
- 3 Bergen. No. 2.
- 4 Vossevangen.
- 5 Mill near Voas.
- 6 Road near Seim.
- 7 Skjøre Foss.

- 8 Farm house at Seim.
- 9 Roadside, Seim.
- 10 Cottage door.
- 11 River at Ulvik.
- 12 Group of Visitors, Ulvik.
- 13 Eldfjord, Vik.
- 14 Simodal.
- 15 River at Vik.
- 16 Eldfjord Vand.
- 17 Way to the Vöring Foss.
- 18 On the way ditto.
- 19 The Vöring Foss.
- 20 Goats.
- 21 Odde.
- 22 Peasant girl, Odde.
- 23 Buerbroe glacier stream.
- 24 The Buerbroe glacier.
- 25 The Ice Wall, Buerbroe.
- 26 Buerbroe Valley, from glacier.
- 27 View on "New Road," Odde.
- 28 Bend on "New Road," Odde.
- 29 Konedal Foss.
- 30 Hildalsfos.
- 31 Glacier stream.
- 32 The Skarve Foss.
- 33 The Laate Foss.
- 34 Espeland Foss.
- 35 The Sande valley.
- 36 The Fjord Side at Odde.
- 37 The last view of Odde.
- 38 Espe.
- 39 Grimo.
- 40 Elde.
- 41 Far, far upon the sea.

### Abbeys and Castles of England.

#### With descriptive Lecture.

- 1 Frontispiece.
- 2 Colchester Castle, Essex.
- 3 St. Botolph's Priory, Colchester.
- 4 Rochester Castle.
- 5 Bodiam Castle and Moat.
- 6 Hurstmonceux Castle.
- 7 Hastings Castle.
- 8 Pevensey Castle.
- 9 Arundel Castle, the Keep.
- 10 Netley Abbey, Interior of Church.
- 11 Netley Abbey, South Transept.
- 12 Netley Abbey, the East Window.
- 13 Carisbrook Castle, Isle of Wight.
- 14 Rochester Castle, near Portsmouth.
- 15 Corfe Castle, General View.
- 16 Launceston Castle, Cornwall.
- 17 Tintern Abbey, from the Hills.
- 18 Tintern Abbey, Interior of Transepts.
- 19 Tintern Abbey, Interior.
- 20 Raglan Castle, Front Towers and Moat.
- 21 Malmesbury Abbey.
- 22 Kenilworth Castle, from the Meadows.
- 23 Kenilworth Castle, Cesar's Tower.
- 24 Kenilworth Castle, Leicester's Buildings.
- 25 Kirkstall Abbey, Exterior.
- 26 Tutbury Castle, Staffordshire.

- 27 Knaresborough Castle, from South.
- 28 Knaresborough Castle, from West.
- 29 St. Mary's Abbey, York.
- 30 Byland Abbey, Distant View.
- 31 Byland Abbey, West Front.
- 32 Byland Abbey, West Doorway.
- 33 Helmsley Castle, Yorkshire.
- 34 Rievaulx Abbey, from Southeast.
- 35 Rievaulx Abbey, the Choir.
- 36 Richmond Castle and Bridge, Yorkshire.
- 37 Easby Abbey, Exterior of Refectory.
- 38 Easby Abbey, Ruins of Church, etc.
- 39 Bolton Castle, Wensleydale.
- 40 Middleham Castle, Wensleydale.
- 41 Fountains Abbey, from the River.
- 42 Fountains Abbey, the Lady Chapel.
- 43 Fountains Abbey, North Transept Window.
- 44 Fountains Abbey, the Crypt.
- 45 Fountains Abbey, from the West.
- 46 Bolton Abbey, Yorkshire.
- 47 Warkworth Castle, Northumberland.
- 48 Tynemouth Priory.
- 49 Furness Abbey, from the East.
- 50 Furness Abbey.

### Spain.

*With descriptive Lecture.*

- 1 Gibraltar—Our Courier.
- 2 Gibraltar—How we saw Gibraltar.
- 3 Gibraltar—The Bay.
- 4 Gibraltar—Alameda.
- 5 Gibraltar—Catalan Bay.
- 6 Gibraltar—Bridge of Thunder.
- 7 Cadiz—The Cathedral.
- 8 Seville—The Cathedral and City.
- 9 Seville—The Alcazar Gardens.
- 10 Seville—Hall of Ambassadors.
- 11 Seville—Court of Sultanas.
- 12 Seville—The Bull Ring.
- 13 Seville—A Bull Fight.
- 14 Seville—A Bull Fight.
- 15 Cordova—The Town.
- 16 Cordova—Court of Oranges.
- 17 Cordova—Interior of Mosque.
- 18 Cordova—Trionfo Monument.
- 19 Toledo—With the Alcazar.
- 20 Toledo—From the Northwest.
- 21 Madrid—Royal Palace.
- 22 Madrid—National Museum.
- 23 Madrid—Fountain of Alcala.
- 24 Madrid—The Escorial.

- 25 Valladolid—An Antique Street.
- 26 Burgos—From the River.
- 27 St. Sebastian.
- 28 Saragossa—The Market.
- 29 Lexida.
- 30 Manresa—The Old Town.
- 31 Barcelona—The Harbor.
- 32 Tarragona—The Cathedral.
- 33 Valencia.
- 34 Granada—Elms in Alhambra grounds.
- 35 Granada—Cielo Bajo.
- 36 Granada—The Alhambra, from San Nicolas.
- 37 Granada—Court of Lions—Moorish Palace.
- 38 Granada—Hall of Two Sisters.
- 39 Granada—Hall of Justice.
- 40 Granada—Moor's Seat.
- 41 Granada—Sierra Nevada from Adabres.
- 42 Granada—Tower of Peaks.
- 43 Granada—Water Tower.
- 44 Granada—Gypsy Prince.
- 45 Granada—Gypsy Girl.
- 46 Granada—Group of Gypsies.
- 47 Loja.
- 48 Malaga—Cathedral and Harbor.
- 49 Malaga—The Covered Market.
- 50 Malaga—The Harbor.

### Burmah.

*With descriptive Lecture.*

- 1 Map.
- 2 Light Infantry crossing River.
- 3 Storming of Ludaw.
- 4 How I saw the Enemy.
- 5 Specimen of King Thebaw's Army.
- 6 King Thebaw and his Wives.
- 7 King Thebaw's removal.
- 8 Transferring King Thebaw to Transport.
- 9 Prendergast's interview with Thebaw's Officers.
- 10 South Gate of Bhamo.
- 11 Mandalay.
- 12 Mandalay, Western Gate.
- 13 Loot Auction.
- 14 Street Sweepers.
- 15 An ex-Judge.
- 17 Advance Guard of Lord Dufferin.
- 18 Presentation of Address to Lord Dufferin.
- 19 The Viceroy's Levee in Throne Room.
- 20 Lord and Lady Dufferin's Reception.
- 21 Welcome to Palace and Reception by Ladies. (Two in one.)
- 22 Ladies going to Afternoon Tea. Reception of the Viceroy. (Two in one.)
- 23 Mummings at the Palace.
- 24 Behind the Scenes, Burmese Pas Seul. (Two in one.)
- 25 A Poony Play.
- 26 Image of Ganda. Burmese Priests and Pupils. (Two in one.)

- 27 Buddhist Girls' School.
- 28 Call to Worship.
- 29 Teaching the Young Ideas.
- 30 Playing Football.
- 31 Wash and Brush-up.
- 32 Burmese Funeral and Band. (Two in one.)
- 33 Stockades.
- 34 Dacots on the Road to Mandalay.
- 35 Capture and Shooting of Dacots.
- 36 Oil Wells.

### The Highlands of Scotland.

*With descriptive Lecture.*

- 1 Introduction.
- 2 Glasgow—Cathedral.
- 3 Glasgow—George Square.
- 4 Glasgow—University.
- 5 Glasgow—Broomielaw.
- 6 Clyde—Henry Bell's Monument.
- 7 Clyde—Dumbarton Castle.
- 8 Clyde—Greenock.
- 9 Clyde—Rothesay.
- 10 Inverary Castle.
- 11 Oban.
- 12 Staffa—Fingal's Cave.
- 13 Iona Cathedral.
- 14 Glencoe.
- 15 Falls of Foyers.
- 16 Inverness.
- 17 Kirkwell Cathedral.
- 18 Stacks of Duncansby.
- 19 Dunrobin Castle.
- 20 Elgin Cathedral.
- 21 Aberdeen from below Suspension Bridge.
- 22 Aberdeen—Castle Street.
- 23 Aberdeen—King's College.
- 24 Aberdeen—Old Machar Cathedral.
- 25 Aberdeen—Old Brig o' Balgownie.
- 26 Balmoral.
- 27 Lochnager.
- 28 Dunottar Castle.
- 29 Abroath Abbey.
- 30 Perth.
- 31 Dunkeld Cathedral.
- 32 Dunkeld Hermitage and Bridge.
- 33 Pass of Killiecrankie.
- 34 Blair Athole.
- 35 Falls of Moness.
- 36 Taymouth Castle.
- 37 Pass of Leny.
- 38 Callander and Ben Ledi.
- 39 Pass of the Trossachs and Ben Venue.
- 40 Loch Katrine—Silver Strand.
- 41 Inversnaid Falls.
- 42 Loch Lomond—looking up.
- 43 Loch Lomond—looking down.
- 44 Dunblane Cathedral.
- 45 Abbey Craig and Wallace Monument.
- 46 Cambuskenneth Abbey.
- 47 Stirling Castle.
- 48 Dollar—Castle Campbell.
- 49 Dollar—"The Devil's Mill."
- 50 Loch Leven Castle.
- 51 St. Andrew's.
- 52 Dunfermline Abbey.

**The Lowlands of Scotland.***With descriptive Lecture.*

- 1 Introduction.
- 2 Edinburgh from Calton Hill.
- 3 Edinburgh—Holyrood Palace.
- 4 Edinburgh—Scott Monument.
- 5 Edinburgh Castle from Grassmarket.
- 6 Edinburgh—Old Town from Princes Street.
- 7 Roslin Glen and Castle.
- 8 Roslin Chapel.
- 9 Roslin Chapel—Interior—Prentice Pillar.
- 10 Craigmillar Castle.
- 11 Tantallon Castle and Bass Rock.
- 12 North Berwick Law.
- 13 Dirlton Castle.
- 14 Norham Castle.
- 15 Twisel Castle.
- 16 Jedburgh Abbey.
- 17 The Capon Tree, Jedburgh.
- 18 Kelso Abbey.
- 19 Floors Castle.
- 20 Branksome Tower.
- 21 Dryburgh Abbey—Sir Walter Scott's Tomb.
- 22 Melrose Abbey from Southwest.
- 23 Melrose Abbey—East Window.
- 24 Abbotsford from River.
- 25 Abbotsford—the Study.
- 26 St. Roman's Well.
- 27 Peebles.
- 28 Neidpath Castle.
- 29 Newark Castle.
- 30 Hogg's Monument and St. Mary's Loch.
- 31 The "Grey Mare's Tale."
- 32 Beld Crags Linn, Moffat.
- 33 Caerlaverock Castle.
- 34 Dundrennan Abbey.
- 35 Dumfries—Burn's Mausoleum.
- 36 Lincluden Abbey.
- 37 On the Nith at Drumlanrig.
- 38 Ayr—The Two Brigs.
- 39 Ayr—Burn's Cottage.
- 40 Ayr—Burn's Monument.
- 41 Ayr—Alloway Kirk.
- 42 Bonnie Doon.
- 43 Stair House.
- 44 Cathrine Lee.
- 45 Ballochmyle House.
- 46 Bothwell Castle.
- 47 Falls of Clyde, Bonnington.
- 48 Falls of Clyde, Cora Linn.
- 49 Falls of Clyde, Stonebyres.
- 50 Linnithgow Palace.

**Switzerland.***With descriptive Lecture.*

- 1 Geneva. From Bridge over Rhone.
- 2 Chamounix and Mount Brevent.
- 3 Tête Noire. First peep of Mont Blanc.
- 4 Tête Noire. Salvan Route.
- 5 Tête Noire. From Roche Percée.
- 6 Tête Noire Valley.

- 7 Mer de Glace. From the Flegère.
- 8 Mer de Glace.
- 9 Mer de Glace.
- 10 Dôme de Goutex. Glacier des Bossons.
- 11 Mont Blanc. From Glaciers.
- 12 Mer de Glace.
- 13 Vernayaz. Pissevache Cascade.
- 14 Vernayaz. Gorge du Trient.
- 15 Vernayaz. Gorge du Trient.
- 16 Zermatt and the Matterhorn.
- 17 Zermatt. The Riffelhaus.
- 18 Zermatt and the Matterhorn.
- 19 The Matterhorn. From Mettelhorn.
- 20 The Matterhorn. From Gornergrat.
- 21 The Lysskamm and Twins.
- 22 Monte Rosa.
- 23 Brieg, Simplon Gorge, and Mount Leone.
- 24 Brieg and Bel Alp.
- 25 St. Gothard. Pont du Diable.
- 26 Pont du Diable.
- 27 Pont du Diable. St. Gothard.
- 28 Hospenthal and Mont Tibbia.
- 29 Amsteg.
- 30 Maderaner Thal.
- 31 Maderaner Hühhorn, and Breithorn.
- 32 Maderaner. Stauerbach Cascade.
- 33 Amsteg. From the Reuss Bridge.
- 34 Viesch Glacier and Finsternhorn.
- 35 Altsch Horn, Jungfrau, Little Aletsch Glacier.
- 36 Meerjensee, Aletsch Horn and Glacier.
- 37 Furca, Todtensee, and Finsteraarhorn.
- 38 Rhone Glacier and Hotel.
- 39 Rhone Crevasse and Glacier.
- 40 Grindewald. Ice Cave.
- 41 Kandersteg. Blumlis Alp and Oexhinen Lake.
- 42 Loèche les Bains and Gemmi Pass.
- 43 Loèche les Bains. Ladder Pass.
- 44 Sion. Rhone Valley.
- 45 Vevay, Montreux and Dent du Midi.
- 46 The Castle of Chillon. Front Entrance.
- 47 The Castle of Chillon. From the Water.
- 48 Ouchy Hotel. Beau Rivage.
- 49 Lausanne. From the Promenade.
- 50 Lausanne. Castle and Cathedral.

**The Mediterranean.***With descriptive Lecture.*

- 1 Gibraltar.
- 2 Gibraltar from Europa Point.
- 3 Gibraltar Town and Bay.

- 4 Barcelona. The Harbor.
- 5 Marseilles from Notre Dame de la Garde.
- 6 Marseilles. Cathedral of Notre Dame de la Garde.
- 7 Marseilles. Fort Napoleon, etc.
- 8 Marseilles. View in the Harbor.
- 9 Marseilles. Museum Fountain.
- 10 Cannes from La Californie.
- 11 Cannes from Mount Chevalier.
- 12 Cannes. Mount Chevalier from the Beach.
- 13 Cannes. Cathedral Tower, Mount Chevalier.
- 14 Antibes.
- 15 Nice from Ville Franche Road.
- 16 Nice. Jardin Anglais.
- 17 Corsica.
- 18 Nice. The Bay.
- 19 Nice. Promenade des Anglais.
- 20 Nice. View in the Harbor.
- 21 Nice. View in the Harbor with Piers.
- 22 Nice. Les Quails.
- 23 Monaco. Monte Carlo.
- 24 Monaco. Monte Carlo Gardens.
- 25 Monaco. Monte Carlo Gardens.
- 26 Mentone. Old Town from Harbor.
- 27 Mentone. Promenade.
- 28 Genoa from above the Railway Station.
- 29 Genoa. Christopher Columbus.
- 30 Naples from San Elmo.
- 31 Naples. Bay and Vesuvius.
- 32 Naples. Marina and San Elmo.
- 33 Sorrento. From Capodimonte.
- 34 Capri. The Marina.
- 35 Capri.
- 36 Amalfi.
- 37 Messina. From the Hills.
- 38 Malta. Grand Harbor.
- 39 Malta. Marsa Muscat.
- 40 Malta. Valetta.
- 41 Malta. Valetta. Church of St. John.
- 42 Malta. Entrance to Grand Harbor.
- 43 Malta. H. M.'s Fleet and Troopship.
- 44 Algiers. General View from Harbor.
- 45 Algiers with Boulevards.
- 46 Algiers from Marengo Gardens.
- 47 Algiers. Palms in Jardin d'Assay.
- 48 Algiers. Palms in Jardin d'Assay.
- 49 Algiers. Interior of Arabesque House.
- 50 Algiers. Gorge of Scheffa.

**Rome.***With descriptive Lecture.*

- 1 View from the French Academy.

- 2 St. Peter's from the Vatican Gallery.
- 3 St. Peter's.
- 4 St. Peter's Façade and Dome.
- 5 St. Peter's—the Interior.
- 6 The Vatican.
- 7 Chiaramonti Corridor—the Vatican.
- 8 The Vatican Ariadne.
- 9 Ruins on the Palatine Hill.
- 10 Temple of Vesta.
- 11 Temple of Castor and Pollux.
- 12 San Lorenzo—Outside the Walls.
- 13 Temple of Faustina from Palatine Hill.
- 14 View from the Palatine Hill.
- 15 Temple of Saturn.
- 16 Arch of Constantine.
- 17 Arch of Titus.
- 18 Arch of Titus—Bas-relief (7 Candlesticks).
- 19 Arch of Titus—Bas-relief (the Chariots).
- 20 Porta San Maggiore.
- 21 Porta San Lorenzo.
- 22 Porta San Paolo.
- 23 Porta San Giovanni.
- 24 Tomb of Cecilia Metella.
- 25 Basilica of Constantine (distant).
- 26 Basilica of Constantine (near).
- 27 Island in the Tiber.
- 28 Palazzo Quirinale.
- 29 Palazzo del Laterano.
- 30 Villa Medici.
- 31 St. Angelo.
- 32 Fontana Prolino.
- 33 Fontana di Trevi.
- 34 The Coliseum.
- 35 The Coliseum—the Interior.
- 36 Piazza Navona.
- 37 Piazza Colonna.
- 38 Steps of Piazza di Spagna.
- 39 View from Monte Pincio.
- 40 Piazza del Popolo.
- 41 Column of Immaculate Conception.
- 42 Pincio Gardens.
- 43 Pincio Gardens—Fountain of Moses.
- 44 The Pantheon.
- 45 San Paolo.
- 46 Forum Romanum.
- 47 Forum of Trajan.
- 48 Column of Phocas.
- 49 The Capitol.
- 50 Santa Maria Maggiore.
- 10 Venice. Palace of the Doges.
- 11 Venice. Palace of the Doges, Bronze Fountain in Courtyard.
- 12 Venice. The Bridge of Sighs.
- 13 Venice. Grand Canal.
- 14 Venice. Ponte Rialto.
- 15 Venice. Ca d'Oro Golden Palace.
- 16 Bologna. Church of San Giacomo Maggiore.
- 17 Florence and River Arno.
- 18 Florence. Cathedral and Campanile from Palazzo Vecchio.
- 19 Florence. Palazzo Vecchio.
- 20 Florence. Uffizi and Palazzo Vecchio.
- 21 Florence. Loggia dei Lanzi.
- 22 Florence. Church of Santa Croce.
- 23 Florence. Triumphal Arch at Porta Gallo.
- 24 Arezzo. Birthplace of Petrarch.
- 25 Naples from S. Elmo.
- 26 Naples. Harbor from the Arsenal.
- 27 Naples. S. Elmo and Marina.
- 28 Naples. S. Lucia and Castello dell'Ovo.
- 29 Naples. Piazza del Plebiscito.
- 30 Naples. Palazzo Reale.
- 31 Naples. Palazzo Reale—the Scala.
- 32 Naples. Church of S. Francesco di Paolo.
- 33 Naples. Villa Nazionale.
- 34 Naples. Monument in the Piazza de Martiri.
- 35 Pompeii. View of Vesuvius.
- 36 Pompeii. The Forum.
- 37 Pompeii. The Basilica.
- 38 Pompeii. The Temple of Venus.
- 39 Pompeii. The Pantheon.
- 40 Pompeii. The House of the Small Fountain.
- 41 Pompeii. The House of the Faun.
- 42 Pompeii. The Amphitheatre.
- 43 Pompeii. The Street of the Tombs.
- 44 Palermo Cathedral.
- 45 Pisa. Baptistery, Cathedral, and Leaning Tower.
- 46 Pisa. Leaning Tower.
- 47 Lucca Cathedral.
- 48 Genoa. Above the Railway Station.
- 49 Genoa. Palazzo Ducale.
- 50 Genoa. Christopher Columbus.
- 8 The Mer de Glace, Chamonix.
- 9 Crevasse on the Mer de Glace.
- 10 Milan Cathedral.
- 11 On the Grand Canal, Venice.
- 12 The Leaning Tower of Pisa.
- 13 The Baptistery, Pisa.
- 14 Interior of Baptistery and Pisano's Pulpit, Pisa.
- 15 The Cathedral, Pisa.
- 16 The Leaning Tower, Baptistery and Cathedral, Pisa.
- 17 The Campo Santo, Pisa.
- 18 The Chain Gallery, Campo Santo.
- 19 The East Gallery, with Organo's Frescoes, Campo Santo.
- 20 The Cathedral, Lucca.
- 21 Church of S. Giacomo, Maggiore, and House of Rossini, Bologna.
- 22 Florence, from San Miniato.
- 23 The Church of Santa Croce and Statue of Dante, Florence.
- 24 South Porch and Sculptures, Cathedral, Florence.
- 25 North Porch and Sculptures, Cathedral, Florence.
- 26 Ghiberte's Gates, Baptistery, Florence.
- 27 Siena, General View.
- 28 The Cathedral, Siena.
- 29 The Three Porches, Siena.
- 30 Arezzo, Birthplace of Petrarch.
- 31 Falls of Terni, Umbria.
- 32 Arch of Constantine, Rome.
- 33 The Coliseum, Rome.
- 34 Arch of Titus, Rome.
- 35 Dome of St. Peter's from the Pope's Gardens, Vatican, Rome.
- 36 The Chiaramonti Corridor, Vatican, Rome.
- 37 The Braccia Nuovo, Vatican, Rome.
- 38 Colossal Statue of the Nile, Vatican, Rome.
- 39 The Meleager, Vatican, Rome.
- 40 The Laocoon, Vatican, Rome.
- 41 The Apollo Belvedere, Vatican, Rome.
- 42 The Mercury of Belvedere, Vatican, Rome.
- 43 Perseus by Canova, Vatican, Rome.
- 44 Gallery of Statues, Vatican, Rome.
- 45 The Ariadne, Vatican, Rome.
- 46 Lucius Verus, in Roman Military Costume, Vatican, Rome.
- 47 Hall of the Busts, Vatican, Rome.
- 48 Adonis, Cabinet of Masks, Rome.
- 49 Gallery of Vases and Canadabra, Vatican, Rome.
- 50 Hall of the Animals, Vatican, Rome.

### Italy.

*With descriptive Lecture.*

- 1 Turin. Palazzo Carignano.
- 2 Turin. Church of Gran Madre di Dio.
- 3 Turin. Capuchin Mount and Monastery.
- 4 Milan Cathedral.
- 5 Orta Lake.
- 6 Invenno. Lake Maggiore.
- 7 Varenna. Lake Como.
- 8 Venice. Cathedral of St. Mark's, Façade.
- 9 Venice. Reliefs in Porphyry of Knights.

### London to Rome.

*With descriptive Lecture.*

- 1 Rouen Cathedral.
- 2 Paris.
- 3 Lucerne.
- 4 Weggis, Lake of Lucerne.
- 5 Berne.
- 6 The Valley of St. Nicholas.
- 7 The Matterhorn.

## The Romance of History; Or, Fact and Fiction.

*With descriptive Lecture.*

- 1 The Tower of London, General View.
- 2 The Tower of London, St. John's Chapel.
- 3 The Tower of London, Exterior St. Peter's Church.
- 4 The Tower of London, Interior St. Peter's Church.
- 5 The Tower of London, Martin Tower, Royal Arms.
- 6 The Rhinoceros.
- 7 Windsor Castle, General View.
- 8 Windsor Castle, Round Tower.
- 9 Westminster Abbey, General View.
- 10 Westminster Abbey, Shrine of Edward the Confessor.
- 11 Westminster Abbey, Jerusalem Chamber.
- 12 Henry VIII. and Anne Boleyn's Tree.
- 13 Temple Bar.
- 14 Painted Hall, Greenwich.
- 15 Hogarth's Laughing Audience.
- 16 Hogarth's Beer Street.
- 17 Hogarth's Gin Lane.
- 18 Hogarth's Gates of Calais.
- 19 Hogarth's March of the Guards to Finchley.
- 20 Hogarth's Tomb.
- 21 Hampton Court.
- 22 The Old Tabard.
- 23 Canterbury Cathedral.
- 24 Canute's Palace, Southampton.
- 25 Netley Abbey.
- 26 Rufus Stone.
- 27 St. Alban's Abbey.
- 28 Carnarvon Castle.
- 29 Aberglaslyn.
- 30 Kenilworth Castle.
- 31 Shakespeare's House.
- 32 Grammar School, Stratford.
- 33 Anne Hathaway's Cottage.
- 34 Stratford Church.
- 35 Gotherney Manor House.
- 36 She read of Fairies.
- 37 The Magician and Aladdin.
- 38 The Magician throws perfume on the fire.
- 39 Aladdin in the Enchanted Palace.
- 40 Aladdin takes the Magic Lamp to his Mother to clean.
- 41 Aladdin determines to marry the Princess.
- 42 Aladdin's Mother presenting the Vase of Flowers to the Sultan.
- 43 The Magician gets possession of the Magic Lamp.
- 44 The Sultan enraged at the disappearance of Aladdin's Palace.

## Children's Entertainment. No. 1.

*With descriptive Lecture.*

- 1 The call of Samuel.
- 2 The death of Eli.

- 3 Saul's disobedience.
- 4 Samuel anointing David.
- 5 David and Goliath.
- 6 Saul's Jealousy of David.
- 7 Jonathan and David.
- 8 David sparing Saul's life.
- 9 Death of David's child.
- 10 Death of Absalom.
- 11 David mourning for Absalom.
- 12 The judgment of Solomon.
- 13 Androcles runs away from his master.
- 14 Androcles extracts a thorn from the lion's foot.
- 15 Androcles falls asleep under the lion's protection.
- 16 Androcles is discovered.
- 17 Androcles in the arena.
- 18 Androcles released.
- 19 Babylonian Lion.
- 20 Bengal Tiger.
- 21 Brahmin Bull.
- 22 Rind.
- 23 Sing Sing Antelope.
- 24 The Markhor.
- 25 The Rhinoceros.
- 26 The Syrian Bear.
- 27 Zebra and colt.
- 28 Elephants.
- 29 The Sea Lion.
- 30 Goodchild at work.
- 31 Goodchild in church.
- 32 Idle apprentice playing pitch and toss.
- 33 Goodchild earns the confidence of his master.
- 34 Idle apprentice sent to sea.
- 35 Goodchild taken into partnership.
- 36 Goodchild is made alderman.
- 37 Idle apprentice betrayed.
- 38 Idle apprentice charged with robbery.
- 39 Idle apprentice sentenced to death.
- 40 Goodchild proclaimed Lord Mayor.
- 41 Cinderella in the kitchen.
- 42 A fairy godmother visits her.
- 43 Cinderella dressed for the ball.
- 44 Cinderella starts for the ball.
- 45 Cinderella and the young prince.
- 46 The prince finds the slipper.
- 47 The proclamation.
- 48 Cinderella married to the prince.

## Children's Entertainment. No. 2.

*With descriptive Lecture.*

- 1 The Wanderoo.
- 2 The Lion.
- 3 The Leopard.
- 4 The Roe.
- 5 The Camel.
- 6 The Needle's Eye.
- 7 The Horse.
- 8 The Ass.
- 9 The Wild Ass.
- 10 Sheep.
- 11 Scrub's first start in life.
- 12 Alfred Pamperfield introduced.

- 13 Cook and housemaid questioning Scrub.
- 14 Scrub in the kitchen.
- 15 Pamperfield goes to the theater.
- 16 Scrub resists Pamperfield's temptation.
- 17 Patty scolds Scrub.
- 18 Pamperfield with his glass and bottle.
- 19 Scrub saves Alfred.
- 20 Scrub promoted.
- 21 Scrub a Sunday-school teacher.
- 22 The old oak chest.
- 23 "I'll hide, I'll hide," she merrily cried.
- 24 Its lid was raised, she an instant gazed.
- 25 Then in she stepped, her bright robe swept.
- 26 They sought her all night.
- 27 For they marked how he sighed for his lovely bride.
- 28 By the old sepulchral chest.
- 29 The two mules.
- 30 The swallow and the little birds.
- 31 The thieves and the ass.
- 32 The wolf turned shepherd.
- 33 The cat and the old rat.
- 34 The sick lion and the fox.
- 35 Washing day.
- 36 Oh what a guy!
- 37 Open your mouth and shut your eyes.
- 38 Seven a.m.
- 39 Seven p.m.
- 40 Look for the towel before you soap your face.
- 41 Dick longs to go to London.
- 42 Dick found on a doorstep.
- 43 Dick buys a cat.
- 44 Dick on Highgate Hill.
- 45 Dick's cat at the king's dinner.
- 46 Dick receives the price of his cat.
- 47 Dick knighted.
- 48 Dick marries Alice.

## Pilgrim's Progress.

*Photographed from life Models and with specially painted Scenery.*

*With descriptive Lecture.*

- 1 Portrait of Bunyan.
- 2 Bunyan alarmed for the salvation of his Soul.
- 3 Bunyan listens to three Women.
- 4 Bunyan parting with his Wife and Children.
- 5 Bunyan's Tomb.
- \*6 Christian Reading his Book.
- \*6A Christian and Evangelist.
- \*7 Christian, Phileas and Obstanate.
- \*8 Christian helped out of the Slough.
- \*9 Worldly Wiseman.
- \*10 Christian under Sinful.
- \*11 Christian knocking at the Gate.

- \*12 Goodwill shows Christian the way.
- \*13 Passion and Patience.
- 14 The Fire burning.
- 15 The Man with the stout countenance.
- 16 The Man in the Cage
- \*17 Christian's burden falls off.
- \*18 The three shining Ones.
- \*19 Christian in the Arbor.
- \*20 Christian at the door of Palace Beautiful.
- \*21 Christian armed.
- \*22 Christian defeats Apollyon.
- \*22A Christian returns thanks.
- \*23 The Valley of the Shadow of Death.
- \*24 Faithful lifts Christian.
- \*25 Vanity Fair.
- \*25A Death of Faithful.
- \*26 Christian and Hopeful enter into a brotherly covenant.
- \*27 Lady Feigning's daughter.
- 28 Christian replies to Byends and Friends.
- \*29 The Pilgrims rest by the River of the Water of Life.
- \*30 Christian and Hopeful at the stile of Bypath Meadow.
- 31 Christian and Hopeful found asleep by Giant Despair.
- 32 The Giant beats his Prisoners.
- \*33 Christian and Hopeful escape from the Dungeon.
- \*34 Christian and Hopeful on the Delectable Mountains.
- 35 Victims of Giant Despair among the Tombs.
- 36 Little Faith robbed.
- \*37 The Pilgrims in view of the Celestial City.
- \*38 The Pilgrims Cross the River of Death.
- 39 The Pilgrims ascend the Hill under escort.
- 40 Ignorance thrust into Hell.

\*Those marked thus [\*] are Photographed from Life Models.

### Bunyan's Pilgrim's Progress.

*With descriptive Lecture.*

- 1 Portrait of Bunyan.
- 2 Bunyan alarmed for the salvation of his Soul.
- 3 Bunyan listens to the three Women.
- 4 Bunyan parting with his Wife and Children.
- 5 Bunyan's Tomb.
- 6 The glorious dreamer.
- 7 Christian sets out from the City of Destruction.
- 8 Christian helped out of the Slough.
- 9 Worldly Wiseman.
- 10 Christian under Sinal.
- 11 Christian knocking at the Gate.

- 12 Goodwill shows Christian the way.
- 13 Passion and Patience.
- 14 The Fire burning.
- 15 The man with the stout countenance.
- 16 The man in the cage.
- 17 Christian's burden falls off.
- 18 The three shining ones.
- 19 Christian Climbing the Hill Difficulty.
- 20 Christian at the door of Palace Beautiful.
- 21 Christian instructed.
- 22 Christian defeats Apollyon.
- 23 The Valley of the Shadow of Death.
- 24 Faithful lifts Christian.
- 25 Vanity Fair.
- 26 Christian and Hopeful enter into a brotherly covenant.
- 27 Lady Feigning's daughter.
- 28 Christian replies to Byends and Friends.
- 29 The Pilgrims rest by the River of the Water of Life.
- 30 Christian and Hopeful at the stile of Bypath Meadow.
- 31 Christian and Hopeful found asleep by Giant Despair.
- 32 The Giant beats his Prisoners.
- 33 Christian and Hopeful escape from the Dungeon.
- 34 Christian and Hopeful on the Delectable Mountains.
- 35 Victims of Giant Despair among the tombs.
- 36 Little Faith robbed.
- 37 The Pilgrims in view of the Celestial City.
- 38 The Pilgrims cross the River of Death.
- 39 The Pilgrims ascend the hill under escort.
- 40 Ignorance thrust into Hell.

### Bunyan's Pilgrim's Progress—Christiana.

*With descriptive Lecture.*

- 1 Christiana Repents.
- 2 Christiana's Dream.
- 3 Christiana proposes to go on a Pilgrimage.
- 4 Mrs. Timorous and Mercy and Christiana packing up.
- 5 Mercy desires to accompany Christiana.
- 6 Mercy left without the Gate.
- 7 The Children eat the Enemy's Fruit.
- 8 The Man with the Muck-rake.
- 9 Mr. Greathheart.
- 10 Hill Difficulty.
- 11 Giant Grim's Death.
- 12 The Pilgrims entreat Greathheart to stay.
- 13 Mercy's Dream.
- 14 Mr. Brisk.
- 15 Dr. Skill.
- 16 The Shepherd Boy.

- 17 The Pilgrims erect a Pillar.
- 18 Mr. Honest.
- 19 Mr. Fearing.
- 20 Galus proposes a Marriage.
- 21 Old Honest proposes a Riddle.
- 22 James Reading the Bible in Galus' House.
- 23 Pilgrims carry back Slaygood's Head.
- 24 Feeble-mind welcomes Ready-to-Halt.
- 25 Mercy Clothes the Poor.
- 26 Mercy at the Bye-way to Hell.
- 27 Valiant-for-Truth.
- 28 The Parents of Valiant-for-Truth try to dissuade him.
- 29 Standfast and Madame Bubble.
- 30 Flower Offerings.
- 31 Christiana Blesses her Children.
- 32 Christiana Enters the River.

### The Pilgrim's Progress.

*Copied by permission of Messrs. Cassell, Petter and Galpin.*

*With descriptive Lecture.*

- 1 Christian setting out from the City of Destruction.
- 2 Help draws Christian out of the Slough of Despond.
- 3 Christian beneath Mount Sinal.
- 4 Goodwill shows Christian the way.
- 5 Christian in view of the Cross.
- 6 Christian ascends the Hill Difficulty.
- 7 Christian passes the two Lions.
- 8 Christian enters the Palace Beautiful.
- 9 Christian armed by Prudence.
- 10 Christian in the Valley of the Shadow of Death.
- 11 Faithful's struggle with the first Adam.
- 12 Evangelist gives good counsel to Christian and Faithful.
- 13 Christian and Faithful in Vanity Fair.
- 14 Faithful suffers Death.
- 15 Mr. Moneylove's Lesson in Hypocrisy.
- 16 The Pillar of Salt.
- 17 Christian and Hopeful in the Castle of Giant Despair.
- 18 Christian, Hopeful, and the Shepherds in Delectable Mountains.
- 19 Faintheart, Mistrust and Guilt rob Little Faith.
- 20 Christian and Hopeful delivered from the Net.
- 21 Beware of Sleeping in the Enchanted Ground.
- 22 Christian instructs Ignorance.
- 23 The Gates are Opened.
- 24 Secret encourages Christian to go.
- 25 Mercy at the Wicket Gate.

- 25 Christian and Mercy delivered from two ill-favored ones.
- 27 The Interpreter's Garden.
- 28 The Pilgrims Drink of the Spring.
- 29 The Welcome at the Palace Beautiful.
- 30 Mr. B-isk and Mercy.
- 31 Honest asleep under the Oak.
- 32 The Pilgrims at the place where Faithful perished.
- 33 Valiant-for-Truth beset by Thieves.
- 34 The Wearisome Way.
- 35 Pilgrims Rest in the Land of Beniah.
- 36 The Farewell.

### Pilgrim's Progress.

From "The Art Journal"  
Illustrations.

With descriptive Lecture.

- 1 The Genius of Art delineating Bunyan's Dream.
- 2 Christian meditates his Departure.
- 3 Christian is met by Evangelist.
- 4 Pliable consents to bear Christian company.
- 5 Christian and Pliable fall into the Slough of Despond.
- 6 Christian's Danger beneath Mount Sinal.
- 7 Christian is released from his Burthen of Sin.
- 8 Christian endeavors to awake Sloth, Ignorance and Presumption.
- 9 Christian is met by Fear and Mistrust.
- 10 Christian Combats with Apollyon.
- 11 Christian Vanquishes Apollyon.
- 12 Christian prepares to enter the Shadow of Death.
- 13 Meeting of Christian and Faithful.
- 14 Christian and Faithful Mocked by the Scorners of Vanity Fair.
- 15 The Destruction of Byends and his Companions.
- 16 Christian and Hopeful are seized by the Giant Despair.
- 17 Christian and Hopeful Escape from the Giant Despair.
- 18 Christian and Hopeful are shown the entrance to the Bottomless Pit.
- 19 Christian and Faithful behold the Fate of the Apostate.
- 20 Christian and Hopeful arrive at the Waters of Death.
- 21 Christian and Hopeful pass the Waters of Death.
- 22 Christian and Hopeful ascend into the Celestial City.

### John Ploughman's Pictures.

With Reading.

- 1 If the Cap fits, wear it.
- 2 Never burn a Candle at both Ends.
- 3 One hunchback laughs at another.
- 4 Empty Sacks.
- 5 The Old Man and his Donkey.
- 6 A Horn-blower but not a Hunter.
- 7 Don't shave with a Hand-saw.
- 8 Don't cut off your Nose.
- 9 The Hole under the Nose.
- 10 Sweep before your own Door.
- 11 Duly feed Man and Steed.
- 12 Mouse-catchlug.
- 13 The Blind need no Mirrors.
- 14 He has got the Fiddle, but not the Stick.
- 15 Great Cry and little Wool.
- 16 Bend the Sapling.
- 17 Ride not your Hobby too hard.
- 18 Great Public Men.
- 19 Fight for a Bone.
- 20 The Cat's Foot.
- 21 Mind your own Business.
- 22 You can't catch the Wind in a Net.
- 23 Beware of the Dog.
- 24 Like Cat Like Kid.
- 25 The Horse with a Halter.
- 26 Beware of Man-Traps.
- 27 A black Hen lays a white Egg.
- 28 He looks one way and pulls the other.
- 29 Stick to it and succeed.
- 30 Cart before the Horse.
- 31 The Leaking Tap.
- 32 Fools set Stools for Wise Men to stumble over.
- 33 A Man in a Passion.
- 34 No Plough, many Weeds.
- 35 The cracked Dish.
- 36 Grasp all and lose all.
- 37 Scatter and increase.
- 38 Every Bird likes its own Nest.

### John Tregonoweth: His Mark.

With Reading.

- 1 The old man and I sat together.
- 2 I opened the door.
- 3 All of a sudden there came an awful blaze of light.
- 4 Light a candle, Mary, 'tis so dark.
- 5 Betty at the Washtub.
- 6 She would sing as I played.
- 7 Then the little maid would sit by my side.
- 8 She was praying for me.
- 9 Here's the old Fiddle.
- 10 My hand rested upon the scar of the wound.
- 11 He got out the paper and wrote something down.
- 12 He comes back and puts a bundle in my hands.

- 13 She flings away the old one and puts on another.
- 14 Mary, lead me to a corner just inside the door.
- 15 Follow me.
- 16 The Donkey and Cart.
- 17 The new Parson.
- 18 Let nothing, O Lord, interrupt this holy peace.

### London.

Set of Twelve, with Reading.

- 1 Buckingham Palace.
- 2 Houses of Parliament.
- 3 Westminster Abbey.
- 4 The Nave, Westminster.
- 5 Blackfriar's Bridge.
- 6 Trafalgar Square.
- 7 Temple Bar.
- 8 St. Paul's Cathedral.
- 9 Interior of St. Paul's.
- 10 General Postoffice.
- 11 Royal Exchange.
- 12 Tower of London.

### Paris.

Set of Twelve, with Reading.

- 1 Panorama of Paris, showing eight Bridges.
- 2 Church of Notre Dame.
- 3 Church of Saint Germaine l'Auxerrois.
- 4 Triumphant Arch of Napoleon.
- 5 Hotel de Ville and Bridge over Seine.
- 6 Church of the Madeleine, exterior.
- 7 Column Vendome.
- 8 Palace of the Louvre.
- 9 Grand Opera House.
- 10 Church of the Invalides, exterior.
- 11 Tomb of Napoleon I, Invalides.
- 12 Café in Champs Elysees.

### Rome.

Set of Twelve, with Reading.

- 1 Panorama of Rome.
- 2 St. Peter's.
- 3 The Vatican.
- 4 The Tiber and Castle of St. Angelo.
- 5 The Coliseum, exterior.
- 6 The Coliseum, interior.
- 7 Arch of Titus.
- 8 The Capitol.
- 9 Ruins of Aqueducts.
- 10 Appian Way.
- 11 The Forum.
- 12 Fountain of Trevi.

### Washington.

Set of Twelve, with Reading.

- 1 United States Capitol.
- 2 U. S. Senate Chamber.
- 3 U. S. Hall of Representatives.
- 4 Pennsylvania Avenue.
- 5 Washington Monument.
- 6 U. S. Treasury.
- 7 Executive Mansion, or White House.
- 8 War, State and Navy Departments.
- 9 General Postoffice Building.
- 10 Smithsonian Institute.

- 11 Jackson Statue.
- 12 Soldiers' Home.

### **Boston.**

#### *With Reading.*

- 1 Panorama of Boston.
- 2 Faneuil Hall.
- 3 Old South Church.
- 4 Old State House.
- 5 State Capitol.
- 6 Custom House.
- 7 Steamboat Wharf and Harbor.
- 8 City Hall.
- 9 Frog Pond, Boston Common.
- 10 Statue of Washington, Public Garden.
- 11 Venus Rising from the Sea, Public Garden.
- 12 Bunker Hill Monument, Charlestown.

### **New York.**

#### *With Reading.*

- 1 Panorama of New York City and Bay.
- 2 East River Bridge.
- 3 Castle Garden.
- 4 Broadway.
- 5 Wall Street, the Custom House.
- 6 Postoffice.
- 7 City Hall.
- 8 Elevated Railroad Tracks.
- 9 Obelisk, Central Park.
- 10 Fountain, Central Park.
- 11 St. Patrick's Cathedral.
- 12 Grand Central Depot.
- 13 Greenwood Cemetery — Jas. G. Bennet's Monument.
- 14 New York Fire Department's Monument, G. C.
- 15 Receiving Vault, Greenwood Cemetery.
- 16 Sylvan Water, Greenwood Cemetery.
- 17 Crescent Water, Greenwood Cemetery.
- 18 Upper Taughannoek Ravine, N. Y., top of Main Fall in the foreground.

### **Philadelphia.**

#### *Set of Twelve, with Reading.*

- 1 Panorama of Philadelphia.
- 2 Independence Hall, exterior.
- 3 Liberty Bell.
- 4 Postoffice.
- 5 United States Mint.
- 6 New City Hall.
- 7 Masonic Temple.
- 8 Boat Houses and Lemon Hill, Fairmount Park.
- 9 Girard Avenue Bridge.
- 10 Horticultural Hall, Fairmount Park.
- 11 Girard College.
- 12 Broad Street Station, P. R. R.

### **Richmond.**

#### *Set of Twelve, with Reading.*

- 1 Panorama of Richmond.
- 2 The Capitol.

- 3 Statue of Washington in the Capitol.
- 4 Stonewall Jackson's Monument.
- 5 Washington Monument.
- 6 St. John's P. E. Church.
- 7 Libby Prison.
- 8 Old Stone House — Washington's Headquarters.
- 9 Jeff. Davis' Residence.
- 10 The Docks.
- 11 Confederate Monument — Hollywood Cemetery.
- 12 President Monroe's Tomb.

### **Niagara.**

#### *Set of Twelve, with Reading.*

- 1 The Rapids.
- 2 Three Sister Islands.
- 3 Horseshoe Fall from Prospect Point.
- 4 Horseshoe Fall from Canadian Side.
- 5 Horseshoe Fall and Terrapin Tower, Winter.
- 6 General View of the Falls, Winter.
- 7 American Fall from Goat Island.
- 8 American Fall from Canadian Side.
- 9 New Suspension Bridge, from above.
- 10 Icebergs.
- 11 The Whirlpool, Old Suspension Bridge and Cantilever Bridge.
- 12 Interior of Old Suspension Bridge.

### **Yosemite.**

#### *Set of Twelve, with Reading.*

- 1 General View of Valley.
- 2 El Capitan.
- 3 Bridal Veil Fall.
- 4 Cathedral Rock.
- 5 Three Brothers.
- 6 Sentinel Rock.
- 7 Yosemite Falls.
- 8 Washington Columns, North Dome and Royal Arches.
- 9 Mirror Lake.
- 10 Vernal Fall.
- 11 Cap of Liberty.
- 12 Nevada Fall.

### **Chicago.**

#### *Set of Twelve, with Reading.*

- 1 Panorama of City.
- 2 Waterworks.
- 3 Grain Elevator.
- 4 La Salle Tunnel.
- 5 S. Douglas Monument.
- 6 Lumber Exchange.
- 7 Grand Pacific Hotel.
- 8 Court House.
- 9 Michigan Central R. R.
- 10 State Street and Palmer House.
- 11 Postoffice.
- 12 Stock Yards Entrance.

### **Historic Places.**

#### *Set of Twelve, with Reading.*

- 1 Plymouth Rock, Mass.
- 2 Concord Bridge, Mass.
- 3 Ruins of Fort Ticonderoga, New York.
- 4 Washington's Headquarters, Newburg, N. Y.

- 5 Ruins of Fort Putnam, West Point, N. Y.
- 6 Old Church, Sleepy Hollow, N. Y.
- 7 Old Mill, Newport, R. I.
- 8 William Penn's House, Fairmount Park, Philadelphia.
- 9 Washington's Residence, Mt. Vernon, Va.
- 10 Washington's Tomb, Mt. Vernon, Va.
- 11 Fort San Marco, St. Augustine, Fla.
- 12 Old Cathedral, St. Augustine, Fla.

### **Far West.**

#### *Set of Twelve, with Reading.*

- 1 Panorama of Salt Lake City, Utah.
- 2 Brigham Young's House, Salt Lake City.
- 3 Mormon Tabernacle, Salt Lake City.
- 4 Great Organ in the Mormon Tabernacle, Salt Lake City.
- 5 Panorama of Sacramento, Cal.
- 6 State Capitol of California, Sacramento.
- 7 Panorama of San Francisco.
- 8 Harbor of San Francisco.
- 9 Chinese Joss House, exterior, San Francisco.
- 10 Chinese Joss House, interior, San Francisco.
- 11 Palace Hotel, San Francisco.
- 12 Market Street and Baldwin Hotel, San Francisco.

### **The Old Roman World.**

#### *With Reading.*

- 1 Liberty of the Roman Women.
- 2 Cornelia and her Jewels.
- 3 A Roman Chariot Race.
- 4 The Vintage Festival.
- 5 Death of Caesar.
- 6 Roman Prisoners Passing under the Yoke.
- 7 A Roman Feast.
- 8 Antony and Cleopatra.
- 9 Gladiators going to Circus.
- 10 The Victorious Gladiator's Appeal.
- 11 Destruction of Pompeii.
- 12 Wild Beasts and their Victims in the Coliseum.

### **A Walk About Venice.**

#### *With Reading.*

- 1 Panorama of Venice.
- 2 Grand Canal and Gondola.
- 3 Colonnade of Ducal Palace.
- 4 Giant's Staircase.
- 5 Campanile and St. Mark's.
- 6 Cathedral of St. Mark.
- 7 Bridge of Sighs.
- 8 Bridge of the Rialto.
- 9 La Casa D'Oro.
- 10 Palace Foscari.
- 11 Church of St. Saluta.
- 12 Isle of St. George.



**New Orleans.***Set of 12, with Reading, \$6.00.*

- 1 A Study from the Oyster Levee.
- 2 A Cotton Levee.
- 3 Cotton Levee—Canal Street.
- 4 The French or Creole Section.
- 5 The French Market.
- 6 Panorama Jackson Square.
- 7 Canal and St. Charles Streets.
- 8 A New Orleans Residence.
- 9 A Group of Loftly Cisterns.
- 10 Old Creole Mansion.
- 11 The Gardeu of a Creole Home.
- 12 A New Orleans Milk Cart.

**Old St. Augustine.***Set of 12, with Reading, \$6.00.*

- 1 Old City Gateway.
- 2 St. George Street.
- 3 The Oldest House.
- 4 Treasury Street.
- 5 Old Spanish Cathedral.
- 6 The Save Market.
- 7 The Villa Zorayda.
- 8 Old Fort San Marco.
- 9 The Stairway to Parapet.
- 10 Watch Tower of Fort.
- 11 Old Spanish Lighthouse.
- 12 The Lighthouse—Anastasia Island.

**Liverpool.***With Reading.*

- 1 Liverpool in the Seventeenth Century.
- 2 St. George's Hall.
- 3 Statues of the Prince Consort and the Queen, with the Wellington Monument.
- 4 The Free Library and Museum.
- 5 The Pictou Reading Room.
- 6 The Walker Art Gallery.
- 7 Church Street and the Compton Hotel.
- 8 The Sailor's Home.
- 9 The Custom House.
- 10 The Town Hall.
- 11 The Exchange.
- 12 The Tomb of Huskisson.
- 13 St. Nicholas' Church and the Watch Tower.
- 14 The Approach to the Landing Stage.
- 15 The Birkenhead Luggage Boat and the Steamship "Celtic."
- 16 The Coasting Steamer "Bonnie Doon" at the Landing Stage.
- 17 Steam-tugs waiting for the Tide.
- 18 View of the Mersey from the Baths.
- 19 The Lifeboat at Rest.
- 20 Europe, Farewell—Emigrants' Departure.
- 21 Group of Russian Refugees.
- 22 H. M. S. "Assistance" embarking Troops for Ireland.

- 23 The Prince's Half-Tide Dock and the Waterloo Grain Warehouses.
- 24 The River Entrance to the Prince's Dock.
- 25 The Belfast steamer waiting to enter Dock.
- 26 The Steamship "Parisian" in the Graving Dock.
- 27 The Liverpool College.
- 28 The Original Everton Coffee House.
- 29 The Young Men's Christian Association.
- 30 The Masonic Hall.
- 31 A Grotto in Sefton Park.
- 32 The Rathbone Monument—Sefton Park.
- 33 The Birkenhead Landing Stage.
- 34 The Bombay Steamer in the Birkenhead Docks.
- 35 The One o'clock Gun and the Steamship "City of Rome."
- 36 Entrance to Birkenhead Park.
- 37 Birkenhead Park—The Lake.
- 38 Birkenhead Park—Bridge over the Lake.
- 39 Steamships "Italy" and "City of Montreal."
- 40 New Brighton Pier.
- 41 New Brighton—The Sands and the Battery.
- 42 New Brighton—The Rock Lighthouse.

**Microscopic Gems.***With Reading.*

- 1 Trichinae in Human Muscles. x 18.\*
- 2 Trichinae in Tongue of Rabbit. x 20.
- 3 Human Liver, Healthy. x 30.
- 4 Human Liver, Drunkard's. x 30.
- 5 Human Tooth. Section. x 4.
- 6 Tooth of Sawfish. Trans. Section. x 14.
- 7 Human Bone. Trans. Section. x 35.
- 8 Bone of Mammal—Tapir. x 35.
- 9 Bone of Bird—Albatross. x 35.
- 10 Bone of Reptile—Alligator. x 35.
- 11 Horn of Bison. x 8.
- 12 Horn of Rhinoceros. Trans. Section. x 12.
- 13 Horn of Rhinoceros. Long. Section. x 12.
- 14 Whalebone of the Bottle-nosed Whale. x 14.
- 15 Whalebone of the South Sea Whale. x 14.
- 16 Hair of Rat. x 200.
- 17 Quill of Porcupine. Trans. Section. x 11.
- 18 Feather of Goldfinch. x 35.
- 19 Cell Structure, Rice Paper Plant. x 35.
- 20 Starch Grain, Polarized. x 35.
- 21 Raphides of the White Lily. x 100.

- 22 Spes-raphides of the Prickly Pear. x 100.
  - 23 Ivory Nut. Section. x 180.
  - 24 Stellate Cells of the Rush. x 25.
  - 25 Spiral Fiber of the Colomia Seed. x 35.
  - 26 Woody Fiber of Pine Wood. x 35.
  - 27 Stem of the Pepper Plant. Trans. Section. x 12.
  - 28 Stem of the Bamboo. Trans. Section. x 15.
  - 29 Stem of the Sarsaparilla. Trans. Section. x 12.
  - 30 Stem of the Bracken. x 8.
  - 31 Fructification of a Fern, Maiden's Hair. x 35.
  - 32 Scales of a Fern. x 18.
  - 33 Stellate Hairs and Scales of Sallow Thorn. x 35.
  - 34 Leaf of sundew, Insectivorous Plant. x 35.
  - 35 Cuticle of the Dutch Rush. x 35.
  - 36 Ovary of the Tiger Lily. x 10.
  - 37 Diatom Heliopelta. x 200.
  - 38 Diatom Triceratium. x 200.
  - 39 Diatom Pinnularia. x 220.
  - 40 Cinchona Bark. Trans. Section.
  - 41 Bisulphate of Quinine, Polarized. x 11.
  - 42 Quinate of Quinine, Polarized. x 20.
  - 43 Chloride of Morphia, Polarized. x 12.
  - 44 Salicine, Polarized.
  - 45 Epsom Salts. Oblique, light. x 25.
  - 46 Platino-Cyanide of Magnesium, Polarized. x 11.
  - 47 Platino-Cyanide of Potassium, x 8.
  - 48 Pitchstone. Section. x 35.
  - 49 Granite. Section. x 35.
  - 50 Chalcedony. x 11.
- \* These figures indicate the number of times the object is magnified before being thrown on the screen.

**A Peep Into Nature through the Microscope.***With Reading.*

- 1 Human Flea.
- 2 Human Male Flea.
- 3 Flea of Dog.
- 4 Flea of Sand Martin.
- 5 Flea of Mole.
- 6 Proboscis of Blow Fly.
- 7 Proboscis of Blow Fly, minute structure.
- 8 Eye of Fly.
- 9 Foot of Fly.
- 10 Spiracle of Fly.
- 11 Silkworm.
- 12 Structure of Air Tubes.
- 13 Spiracle of Larva of Cockchafer.
- 14 Wing of Butterfly.
- 15 Wing Scales of Blue Butterfly.
- 16 Antenna of Vaporer Moth.
- 17 Tongue of Honey Bee.
- 18 Hind Wings of Bee. Hooklets.
- 19 Sting of Hornet.

- 20 Saws of Saw Fly.
- 21 Tongue of Cricket
- 22 Gizzard of Cricket.
- 23 Chirping File and Drum of Cricket.
- 24 Sheep Tick.
- 25 Human Bug.
- 26 Parasite on Fig.
- 27 Aphid.
- 28 Aphid—Male.
- 29 Spider.
- 30 Mouth of Spider.
- 31 Spinneret of Spider.
- 32 Foot of Spider.
- 33 Calamistrum on Leg of Spider.
- 34 Red Earth Mite.
- 35 Cheese Mites.
- 36 Parasite on Beetle.
- 37 Tape Worm of Cat.
- 38 Palate of Garden Snail.
- 39 Palate of *Haliotis*—Polarized.
- 40 Stem of Exogen. Clematis.
- 41 Brazilian Wood. Annual Rings of growth.
- 42 Plane Tree. Medullary Rays.
- 43 Plane Tree. Vertical Section across the Rays.
- 44 Section of Stem of Endogen. Butcher's Broom.
- 45 Cuticle of Leaf. Stomata.
- 46 Sea Weed. Polysiphonia.
- 47 Volvox Globator.
- 48 Recent Diatoms.
- 49 Fossil Diatoms.
- 50 Foraminifera. March Silt.
- 51 Chalk.
- 52 Soundings of H. M. S. Challenger.
- 53 Stem of Plant in Coal.
- 54 Oolitic Limestone. Chert.

### Rip Van Winkle.

*With Reading.*

- 1 Playing with the Children.
- 2 At the Village Inn.
- 3 His Scolding Wife.
- 4 On the Mountains.
- 5 Returns after a Nap of Twenty Years.
- 6 Relating his Story.

### Leap for Life.

*With Reading.*

- 1 There stood the boy with dizzy brain,  
Between the sea and sky.
- 2 Then suddenly a rifle grasped  
And aimed it at his son.
- 3 "That only chance your life can save;  
Jump, jump, boy!" He obeyed.
- 4 He sank—he rose—he lived—he moved—  
And for the ship struck out.
- 5 "His father drew in silent joy,  
those wet arms round his neck."

### Seven Ages of Man.

*With Reading.*

- 1 The Infant.
- 2 The School Boy.

- 3 The Lover.
- 4 The Soldier.
- 5 The Justice.
- 6 The Lean and Slipped Pantaloons.
- 7 The Last Scene.

### Pilgrim's Progress.

*With Reading.*

- 1 The Pilgrim and his Burden.
- 2 The Shining Light.
- 3 The Slough of Despond.
- 4 The Pilgrim at the Gate.
- 5 Christian and the Three Shining Ones.
- 6 The Pilgrim and the Lions.
- 7 Christian Armed.
- 8 The Fight with Apollyon.
- 9 Vanity Fair.
- 10 The Pilgrims found Sleeping.
- 11 The Pilgrims and the Shepherds.
- 12 Passing through the Waters.

### Uncle Tom's Cabin.

*With Reading.*

- 1 George Harris taking leave of his Wife.
- 2 An Evening in Uncle Tom's Cabin.
- 3 Escape of Eliza and Child on the Ice.
- 4 Uncle Tom sold and Leaving his Family.
- 5 Eva St. Clair makes a Friend of Uncle Tom.
- 6 Uncle Tom saves Eva from Drowning.
- 7 George Harris resisting the Slave Hunters.
- 8 Eva and Topsy.
- 9 Eva Reading to Uncle Tom.
- 10 Eva's Dying Farewell.
- 11 Legree's Cruelty to Uncle Tom.
- 12 Death of Uncle Tom.

### Voyage of Life.

*Childhood.*

- 1 "Fair childhood starts,  
illumed with light,  
And pleading visions trance  
the sight."

*Youth.*

- 2 "Then youth arrives. How fair  
the view!  
How radiant upward shines  
the blue!"

*Manhood.*

- 3 "What now, O God!  
through this stern strife  
Can keep the voyager, save  
his life?"

*Old Age.*

- 4 "While o'er the dark, receding storm,  
Bright breaks the light of  
endless morn."

### Life of Jesus Christ.

*With Reading; plain or colored.*

- 1 The Nativity, Shepherds worshipping.

- 2 Adoration of the Magi.
- 3 Flight into Egypt.
- 4 Jesus among the Doctors.
- 5 Marriage at Cana.
- 6 Sermon on the Mount.
- 7 Jesus enters into Jerusalem.
- 8 Jesus betrayed by Judas.
- 9 Jesus condemned to death.
- 10 Jesus is nailed to the Cross.
- 11 Jesus dies upon the Cross.
- 12 Jesus taken down from the Cross.
- 13 Jesus is placed in the Tomb.
- 14 The Resurrection.
- 15 Ascension of Jesus.

### Life of Joseph.

*With Reading; plain or colored.*

- 1 Joseph tending his Father's Flocks.
- 2 The Dreams of Joseph.
- 3 Joseph thrown in a Well.
- 4 Joseph sold by his Brethren.
- 5 Joseph's Bloody Coat brought to Jacob.
- 6 The Chastity of Joseph.
- 7 Joseph Interprets Dreams of Butler and Baker.
- 8 Joseph Interprets Pharaoh's Dreams.
- 9 Joseph raised to honor by Pharaoh.
- 10 The Cup found in Benjamin's Sack.
- 11 Simeon detained by Joseph.
- 12 Joseph makes himself known to his Brethren.
- 13 Joseph meets his Father in Goshen.
- 14 Joseph presents his Father to Pharaoh.
- 15 Jacob Blesses his Twelve Sons.
- 16 Jacob Blesses the Sons of Joseph.

### Life of Moses.

*With Reading; plain or colored.*

- 1 Striking the Rock.
- 2 Jethro bringing his Wife and Children.
- 3 Coming down from the Mount.
- 4 Destroying the Golden Calf.
- 5 The Rebellion of Korah.
- 6 Lifting up the Serpent.
- 7 Spoiling of the Midianites.
- 8 Viewing of the Promised Land from Pisgah.
- 9 Finding of Moses.
- 10 Slaying the Egyptian.
- 11 The Burning Bush.
- 12 Returning to Egypt.
- 13 Before Pharaoh.
- 14 Plague of Locusts.
- 15 Slaying the First-born.
- 16 The Departure from Egypt.
- 17 The Red Sea.
- 18 Miriam.

### Life of St. Paul.

With Reading; plain or colored.

- 1 Before the Court of Areopagus.
- 2 Preaching at Corinth.
- 3 Preaching in the School of Tyrannus.
- 4 Burning the Books.
- 5 Addressing the Jews from the Steps of the Castle.
- 6 At the Death of Stephen.
- 7 The Conversion.
- 8 Receiving his Sight.
- 9 Let down in a Basket.
- 10 Healing the Cripple.
- 11 The Philippian Jailor.

### The Ten Commandments.

With Reading; plain or colored.

- 1 First Commandment.—Thou shalt have no other gods before me.
- 2 Second Commandment.—Thou shalt not make unto thee any graven image.
- 3 Third Commandment.—Thou shalt not take the name of the Lord thy God in vain.
- 4 Fourth Commandment.—Remember the Sabbath day to keep it holy.
- 5 Fifth Commandment.—Honor thy father and thy mother.
- 6 Sixth Commandment.—Thou shalt not kill.
- 7 Seventh Commandment.—Thou shalt not commit adultery.
- 8 Eighth Commandment.—Thou shalt not steal.
- 9 Ninth Commandment.—Thou shalt not bear false witness against thy neighbor.
- 10 Tenth Commandment.—Thou shalt not covet thy neighbor's house, etc.
- 11 Moses receiving the Tables of the Law.
- 12 Moses delivering the Tables of the Law to the people.

### The Lord's Prayer.

With Reading; plain or colored.

- 1 "Our Father which art in Heaven."
- 2 "Thy will be done on earth as it is in Heaven."
- 3 "Give us this day our daily bread."
- 4 "Forgive us our debts as we forgive our debtors."
- 5 "Lead us not into temptation."
- 6 "Deliver us from evil."
- 7 "Thine is the kingdom, and the power, and the glory, forever. Amen."

### The Life of Martin Luther.

With Reading; plain or colored.

- 1 The School, 1488, 1497.
- 2 Poverty (St. George's Square, Eisenach) 1498.
- 3 The Bible (University Library at Erfurth) 1503.
- 4 The Call from God (Gate of the University Library, Erfurth) 1505.
- 5 Humiliation (Gate of the Augustine Monastery at Erfurth) 1505.
- 6 The indulgences; or, the Ninety-five Propositions (in front of All Saints' Church, Wittenberg) October 31, 1517.
- 7 Luther Burning the Pope's Bull (in front of the East Gate of Wittenberg) December 10, 1520.
- 8 The Diet of Worms (Hall of the Diet) April 13, 1521.
- 9 Luther on the Wartburg, May 4, 1521, March 4, 1522.
- 10 The Marriage (Amsdorff's House at Wittenberg) June 13, 1525.
- 11 Domestic Life (a Room in Luther's House at Wittenberg) on the Walls are portraits of the Reformer's friends.
- 12 Victory in Death (Eisleben) the Night of the 18th of February.

### Superior Dissolving Views.

Producing Superb Dissolving Effects and Requiring the use of two Lanterns. They afford a fine opportunity for the introduction of popular hymns.

Colored; \$1.50 per slide.

- 1 No Cross, No Crown. Four Slides..... \$6 00
- a Christiana gazing over the Sands of Time.
- b Christiana beholds the Cross of Christ.
- c Christiana dreams of the Beautiful Shore.
- d Christiana is crowned by an Angel of Light.
- 2 Rock of Ages. Four Slides..... \$6 00
- a An Angry Sea Swallowing a Wreck.
- b The Cross—the Rock of Ages—rises above the waters.
- c Faith (clinging to the Cross, is lifted above the waves.
- d Faith Wings her Flight Heavenward.
- 3 The Way of Salvation. Four Slides.. \$6 00
- a The Repentant Sinner.
- b Knocking at the Gate.
- c Led by Jesus.
- d The Shores of the Beautiful River.

- 4 Origin of the Moss Rose. Four Slides. With Poem..... \$6 00

- 5 Angel of Peace. Four Slides..... 6 00

- a The Mother gazes fondly on her Babe.
- b The Mother sits beside an Empty Cradle.
- c A Starry Sky above a Sleeping City.
- d The Angel of Death bears the Child Heavenward.

- 6 Ship at Sea. Five Slides..... \$7 50

- a The Ship under full sail.
- b A Storm. The Ship is wrecked.
- c Vivid Flashes of Lightning illumine the Scene.
- d The Crew take to the Boats.

- e A Brilliant Rainbow gradually appears.

- 7 A Soul's Advent upon Earth. Two Slides..... \$3 00

- a A Landscape at Midnight.

- b The Spirit of a Child is borne by Cherubs, and accompanied by an Angel.

- 8 Angel of Peace. Two Slides..... \$8 00

- a The city lies beneath, wrapped in slumber, and scarcely discernible by the light of the moon.

- b The Angel of Death, with outspread wings, flies across the scene, bearing the spirit of a child.

- 9 Mercy's Dream. Two Slides..... \$3 00

- a A beautiful woman is sleeping beneath a widespread tree.

- b The vision of an Angel bearing a Crown of Light appears above her.

- 10 Mother's Grave. Two Slides..... \$3 00

- a Three Children are engaged in placing floral tributes upon their Mother's Grave.

- b The Mother's Spirit descends and hovers over them.

- 11 Beethoven's Dream. Two Slides..... \$3 00

- a The Great Composer has fallen asleep at his piano.

- b The Spirit of Music floats above him.

- 12 Orphan's Dream. Two Slides..... \$3 00

- a Tired of Play, the Orphan Boy has fallen asleep.
- b His Mother's Spirit appears, bending lovingly over him.

- 13 Shipwrecked Mariners. Two Slides.. \$3 00

- a Two mariners cast upon a rocky coast, discover a ship in the distance at day-dawn.  
 b Morning advances, and the ship approaches.  
 14 Abou Ben Adhem. Two Slides. With Poem..... \$3 00  
 a The first appearance of the Angel.  
 b The second appearance of the Angel.  
 15 Star of Bethlehem. Two Slides..... \$3 00  
 a Wise Men of the East journeying toward Jerusalem.  
 b The Son of Man appears in a radiant light.  
 16 The Magic Bouquet. Two Slides..... \$3 00  
 a The Flowers in Bud.  
 b The Flowers in Full Bloom.  
 17 Falls of Niagara. Two Slides..... \$3 00  
 a General View of Falls in Summer.  
 b A Beautiful Rainbow appears in the mist.  
 18 Highlander's Dream of Home. Two Slides..... \$3 00  
 a A Highland Soldier asleep by his camp fire.  
 b A Vision of Home appears above the fire.  
 19 Birth of Venus. Two Slides..... \$3 00  
 a Flying Cupids announce the coming of Venus.  
 b The beautiful Venus is born of the Ocean's foam.  
 20 Washington's Tomb. Two Slides..... \$3 00  
 a Tomb of Washington, at Mount Vernon, on the Potomac.  
 b The Spirit of Washington appears within the Tomb.  
 21 Washington's Dream. Two Slides. \$3 30  
 a Falls asleep over his war map at Valley Forge, Pennsylvania.  
 b Beholds a vision of America's future prosperity.  
 22 American Soldier's Dream of Home. Two Slides..... \$3 00  
 a Asleep by the camp fire.  
 b A vision of home appears in the smoke of the fire.  
 23 Napoleon. Two Slides..... \$3 00  
 a Powerful at the head of his army.  
 b Powerless on the barren rock at St. Helena.  
 24 White and Red Roses. Two Slides. \$3 00  
 a White Rose, emblematic of Purity.  
 b Red Rose and Cupid with bow, emblems of Love.  
 25 The Bachelor's Reverie. Two Slides.. \$3 00  
 a The Bachelor indulges in a twilight Reverie.  
 b A vision of his first love appears.  
 26 Mosque of Omar. Two Slides..... \$3 00  
 a Mosque of Omar, Jerusalem by day.  
 b The Mosque illuminated by night.  
 27 Westminster Abbey, London. Two Slides..... \$3 00  
 a The magnificent Abbey by daylight.  
 b The illuminated Abbey by moonlight.  
 28 Storm in the Rocky Mountains. Two Slides..... \$3 00  
 a A lofty peak at midnight. Storm Raging.  
 b Lightning strikes the peak, rending the rocks asunder.  
 29 Faust and Marguerite. Two Slides.. \$3 00  
 a Faust in his Laboratory tempted by Mephistopheles.  
 b Flames dart from Mephistopheles' lamp and vision of Marguerite appears.  
 30 Look not upon the Wine when it is Red. (Very good.) Two Slides..... \$3 00  
 a A Beautiful Girl in all the abandon of the dance, wine cup in hand.  
 b A Hideous Skeleton continues the dance, a serpent creeping from the cup (Proverbs xxiii, 31).  
 31 Good Morning. Two Slides..... \$3 00  
 a The window of a palatial mansion, with shutters closed.  
 b Shutters fly open and reveal a fair face and figure.  
 32 A Dream of Immortality. Two Slides. \$3 00  
 a A Beautiful Lady lies dreaming upon a couch.  
 b Angels place a crown upon the sleeper's brow.  
 33 The Protecting Scout. Two Slides. \$3 00  
 a A defenseless Woman and Children attacked by Indians.  
 b Appearance of the Protecting Scout.  
 34 The Wood Nymph's Bath. Two Slides. \$3 00  
 a An embowered lake in the forest, by moonlight.  
 b A Wood Nymph, upon a couch of lilies, floats upon the waters.  
 35 The Handwriting on the Wall. Two Slides..... \$3 00  
 a Be shazzar in the midst of a Bacchanalian Revel.  
 b Daniel reads the words "Mene, Mene, Tekel Upharsin."  
 36 The Flight of Aurora and her Train. Two Slides..... \$3 00  
 a A gorgeous mass of rosy clouds.  
 b Aurora followed by Apollo, and a Host of Goddesses. (Remarkably Fine.)  
 37 The Little Foxes' Retreat. Two Slides..... \$3 00  
 a Trunk of an old hollow tree, in which is a large hole.  
 b Three saucy-looking little foxes peep out of the hole.  
 38 The Sculptor's Dream. Five Slides. (Immensely Popular)..... \$5 50  
 a Studio. Sculptor musing. Richly colored. 3 in.  
 b The Cymbal Player. (Statuary.)  
 c Apollo. (Statuary.)  
 d Flying Mercury "  
 e Flora. "  
 39 Magic Pictures in Artists' Studio. Four Slides. .... \$5 00  
 a Empty Frame on Easel in Artists' Studio.  
 b Portrait of U. S. Grant.  
 c Portrait of A. Lincoln.  
 d Stuart's Portrait of Washington, appear successively in the frame.  
 Other suitable pictures may be adapted for dissolving with frame.  
 40 a First Interview between Anthony and Cleopatra.  
 b Cleopatra's Galley.  
 c The Fête at Court of Cleopatra.  
 41 a Warranted Sound and Kind.  
 b The Owner has no further use for the Horse.  
 42 a The Love Tap at the Window.  
 b The Summons Answered.  
 43 a The Puppies' Kennel—The Birds' Song.  
 b The Puppies' Kennel—The Puppies appear.  
 44 a The Fish Story—The Fish.  
 b The Fish Story—The Story.  
 45 a The Policeman's Luck—The Soft Snap.  
 b The Policeman's Luck—The Dead Give-away.  
 46 a An Envidious Position.  
 b An Unenviable Position.  
 47 a American Landscape—Summer.  
 b American Landscape—Winter.  
 48 a The Volunteer's Departure—Civil War.  
 b The Volunteer's Return—Civil War.

- 49 a Pygmalion and Galatea  
—The Prayer.  
b Pygmalion and Galatea  
—The Statue Coming  
to Life.  
c Pygmalion and Galatea  
—The Statue Advanc-  
ing.
- 50 a Christmas Eve in Camp.  
b Christmas Eve at Home.
- 51 a Courtship for Second  
Wife—The Proposal.  
b Courtship for Second  
Wife—Ghost of First  
Wife Appears.  
c Courtship for Second  
Wife—Consternation.
- 52 a Love and Marriage—  
First meeting.  
b Love and Marriage—  
Five days later.  
c Love and Marriage—  
Five years later.
- 53 a Settlement in Back-  
woods—The Beginning.  
b Settlement in Back-  
woods—The Increase.
- 54 a John Brown Led to Exe-  
cution.  
b John Brown Kissing  
Negro Child.
- 55 Drop Curtain, City of An-  
cient Greece—Designed  
for an Opening Piece in  
an Exhibition.
- 56 Wreath of Flowers—With  
Good Night. Suitable for  
Closing an Exhibition.
- 57 a Life's Day, Morning.  
(Bellows.)  
b Life's Day, Noon. (Bel-  
lows.)  
c Life's Day, Night. (Bel-  
lows.)
- 58 a The Christian Graces.  
(Hicks.)  
b Il Peuserosa. (Hicks.)  
c L'Allegro. (Hicks.)
- 59 a The Contraband.  
b The Recruit.  
c The Veteran.
- 60 a Brave Drummer Boy  
and his Father. Both  
enlist in Union army.  
b Brave Drummer Boy  
and his Father. In  
Battle against the  
Rebels.  
c Brave Drummer Boy  
and his Father. Both  
Die upon the Battle-  
field.
- 61 a Heathen Chinese. Eu-  
chre.  
b Heathen Chinese. The  
Right Bower.  
c Heathen Chinese. Twen-  
ty-four Jacks.
- 62 a Frigid Zone.  
b Temperate Zone.  
c Torrid Zone.
- 63 a Heartsease. (Baxter.)  
b Lilies. (Baxter.)  
c Nora. (Baxter.)
- 64 a Faith. (Palmer.)  
b Hope. (Palmer.)  
c Immortality. (Palmer.)
- 65 a The Friendly Meeting.  
b A Temperance Meeting.
- 66 a Study. (Holfield.)  
b Prayer. (Holfield.)  
c Mother's Dream.  
(Brooks.)
- 67 a Believer's Mission.  
(Brooks.)  
b Wife's Prayer. (Brooks.)  
c Dream of Hope. (Brooks.)
- 68 a Aurora. (Hamon.)  
b Feeding the Bird.  
(Hamon.)
- 69 a Beatrice Cenci. (Beran-  
ger.)  
b Evangeline. (Beranger.)
- 70 a The Luncheon. (Bro-  
chart.)  
b The Good Friends.  
(Brochart.)
- 71 a Alexander and Diog-  
enes. (Landseer.)  
b Jack in Office. (Land-  
seer.)
- 72 a Distinguished Member  
of the Humane So-  
ciety. (Bateman.)  
b Nothing Venture, Noth-  
ing Have. (Bateman.)
- 73 a Lily of Ghent. (Abso-  
lon.)  
b Water Lilies. (Bouvier.)
- 74 a Cinderella. (Lejeune.)  
b Blue Bird. (Lejeune.)
- 75 a Mamma's Birthday.  
(Dobson.)  
b Remembrance. (Dobson.)
- 76 a The Abduction. (Bar-  
rias.)  
b Vengeance. (Vernet.)
- 77 a The Lake. (Brochart.)  
b The Glacier. (Brochart.)  
Very choice.
- 78 a Cattle at Watering  
Place. (R. Bonheur.)  
b Sheep in Pasture. (K.  
Bonheur.)
- 79 a The Mother's Joy. (Am-  
berg.)  
b The Widow's Comfort.  
(Amberg.)
- 80 a Morning Prayer. (Meyer  
von Bremen.)  
b Evening Prayer. (Meyer  
von Bremen.)
- 81 a Saturday Night. (Abso-  
lon.)  
b Sunday Morning. (Abso-  
lon.)
- 82 a Going to the Club.  
b Returning from the Club.
- 83 a Going against the  
Stream. (Jenkins.)  
b Going with the Stream.  
(Jenkins.)
- 84 a High Life. (Landseer.)  
b Low Life. (Landseer.)
- 85 a Aspiring to Heaven.  
(Zuber Buhler.)  
b Regretting the Earth.  
(Zuber Buhler.)
- 86 a The Temperance Meet-  
ing. (Herring.)  
b The Friendly Meal.  
(Herring.)
- 87 a My First Sermon. (Mil-  
lals.)  
b My Second Sermon.  
(Millals.)
- 88 a By the Seaside. (Bro-  
chart.)  
b Near the Falls. (Bro-  
chart.)
- 89 a Joy.  
b Sorrow.
- 90 a Fairy Tales.  
b Reading the Psalms.
- 91 a The Evening Prayer.  
(Frere.)
- 92 a The Morning Kiss.  
(Frere.)  
b The Quay at Liverpool.  
Outward Bound.  
c The Dock at Boston.  
(Comic.) Homeward  
Bound.
- 93 a The Settlement in the  
Backwoods. The Be-  
ginning.  
b The Settlement in the  
Backwoods. The In-  
crease.
- 94 a Castle of Chillon. Lake  
Geneva, Switzerland.  
Day.  
b Castle of Chillon. Moon-  
light. Winter.
- 95 a Windsor Castle. Day.  
b Windsor Castle. Moon-  
light.
- 96 Castle of Drachenfels.  
Summer.  
b Castle of Drachenfels.  
Winter Night.
- 97 a Castle of Ehrenfels on  
Rhine. Summer.  
b Castle of Ehrenfels on  
Rhine. Winter.
- 98 a Conway Castle, England.  
Day.  
b Conway Castle, England.  
Moonlight.
- 99 a Isola Bella, Italy. Day.  
b Isola Bella, Italy.  
Moonlight.
- 100 a Grace before Meat.  
b Grace after Meat.
- 101 a Death-bed of the  
Righteous. John  
Wesley praying.  
b Death-bed of the Wicked.  
Cardinal Riche-  
lieu Playing Cards.
- 102 a Abel's Sacrifice Re-  
ceived.  
b Cain's Sacrifice Re-  
jected.
- 103 a Noah building the  
Ark.  
b Noah receiving Advice  
from above.
- 104 a Noah's Sacrifice.  
b Noah's Sacrifice. Ap-  
pearance of the Rain-  
bow.
- 105 a The Witch of Endor  
visited by Saul.  
b The Witch of Endor  
Raising Samuel.
- 106 a Flowers. Dahlias and  
Roses.  
b Flowers. Asters and  
Poppies.
- 107 a Fruits. Grapes.  
b Fruits. Currants.
- 108 a Before the Proclama-  
tion. A sad Negro  
face.  
b After the Proclama-  
tion. A merry Negro  
face.
- 109 a Good-night in Wreath  
of Flowers.  
b Good-night in Moonlit  
Sky.
- 110 a English Landscape.  
Tempest. Lightning.  
b English Landscape.  
Rainbow.
- 111 a The Repentant Sinner.  
b Knocking at the Gate.  
c Led by Jesus.

- d The Shores of the Beautiful River.  
 112 a Death of Sardanapalus. (Schopin.)  
     b Socrates instructing Alcibiades. (Schopin.)  
 113 Salisbury Cathedral, England, Two Slides..... \$3 00  
 a The beautiful Cathedral by day.  
 b The illuminated Cathedral by moonlight.

### Dissolving Views with Magnificent Movable Effects.

Two Lanterns are Required for the Exhibition of these Slides.

- 1 Water-mill in Pennsylvania. Four Slides..... \$10 00  
 a A summer day; the water-wheel in motion.  
 b The moon rises and produces a rippling effect on the water.  
 c The mill in winter; the ground covered with snow.  
 d Snow storm; the white flakes fall thick and fast.  
 2 Fort Sumter, Charleston Harbor. Four Slides \$7 50  
 a The Fort by daylight in time of peace.  
 b The Fort by moonlight in time of peace.  
 c On fire during bombardment.  
 d Fire and smoke curl upward from the Fort.  
 3 Bay of Naples and Mount Vesuvius. Three Slides..... \$6 00  
 a Grand panorama by daylight.  
 b Night; the mountain in eruption.  
 c Fire and smoke rise from the burning crater.  
 4 Castle of St. Angelo and Church of St. Peter, Rome. Three Slides..... \$6 00  
 a The Church and Castle by daylight.  
 b Gorgeous illumination on Easter night.  
 c Fireworks fly through the heavens.  
 5 Life near the North Pole. Three Slides..... \$6 00  
 a The Arctic regions by day.  
 b Night among the icebergs.  
 c Brilliant Aurora Borealis flashes upward in the northern sky.  
 6 Mount Etna, Island of Sicily. Three Slides..... \$6 00  
 a The great Mountain by day.  
 b Volcanic eruption at night.  
 c Fire and smoke pour from the flaming cone.  
 8 Magician and Cauldron. Two Slides \$6 50  
 a A weird incantation scene. A magician is standing within his cave, waving a wand over a bubbling cauldron.  
 b Ghosts, witches, imps, gnomes, etc., fly from the cauldron.  
 10 Nalad Queen of the River Rhine. Two Slides..... \$4 00  
 a Moonbeams glisten on the Rhine, upon whose shore a castle rises in frowning outline.  
 b The Nalad Queen appears seated upon her throne of shell, and glides over the waters playing her wonderful harp.  
 11 Express Train..... \$4 00  
 a A railroad bridge by moonlight with a forest in the background.  
 b A locomotive and train of cars dash by, the headlight and sparks making a brilliant effect.  
 12 The Serenade in Venice. Two Slides..... \$1 00  
 a Grand Canal by moonlight. Castle in the foreground.  
 b A Venetian cavalier approaches in a gondola and sings before the castle. A lady appears upon the balcony above him.  
 13 Steamer Leaving Port. Two Slides \$1 00  
 a A vast harbor, and city in the distance.  
 b A steamer glides across the harbor and puts to sea.  
 14 Fire in Philadelphia. Two Slides \$4 00  
 a Street by night. Fire over the housetops. The alarm.  
 b A steam fire engine dashes by, drawn by two prancing horses.  
 15 Lakes of Killarney, Ireland. Two Slides..... \$4 50  
 a Angels fold their wings, and rest in that Eden of the west, Beauty's Home, Killarney.  
 b Moon rises, and the waters ripple.  
 16 Martyred Christian. Two Slides..... \$4 50  
 a The body of a beautiful woman floats upon the moonlit waters.  
 b Her spirit is borne upward by angels. (Beautiful effect.)  
 17 Magic Lily. Two Slides..... \$4 00  
 a The beautiful lily of the East, the home of fairies.  
 b A fairy with a golden wand rises from the bosom of the lily.  
 18 Haunted Abbey. Two Slides..... \$4 00  
 a Tomb in the ruins of an old English abbey.  
 b A ghost rises from the tomb.  
 19 The Skeleton Dance in Kirk Alloway. Two Slides..... \$6 00  
 a Ruins of Kirk Alloway, Scotland, scene of Tam O'Shanter's vision.  
 b A skeleton executes a fantastic dance among the ruins.  
 20 Water-mill in the Alps. Two Slides \$5 25  
 a Summer in the Alps; revolving water-wheel.  
 b Winter; snow clad mountains; wheel frozen fast.  
 21 Holland Wind-mill. Two Slides..... \$5 25  
 a A Dutch wind-mill by moonlight.  
 b Daylight; the fans of the wind-mill revolving.  
 22 Curtain Slide. One Slide..... \$3 25  
 Represents the rolling up of a curtain, and produces a very pleasing effect for commencing a dissolving-view exhibition.  
 23 Snow Slide. One Slide..... \$1 75  
 Represents falling snow, and may be used in connection with any of the above winter scenes very effectively.  
 24 Moon Slide. One Slide, Lever Movement..... \$2 25  
 25 Moon Slide. One Slide, Perpendicular Movement.. \$1 75  
 Rising moon effect; may be used in combination with any of the foregoing night scenes.

### Selected Subjects.

Plata, 50 cents; Colored, round, \$1.50; Colored, square, \$2.00.

Age of Gold.

All that was left of the Homeward Bound.  
 American Railway Station.  
 American Eagle on National Shield.

Ancient Custom—Painting the Eyebrows.

Appian Way, Rome.

Babes in the Wood.

Barber Shon of Lucinius.

Barcarolle by Moonlight.

Basket of Croquemitaine.

Barbara Frietchie.

Beatrice Cenci.

Believer's Vision.

Bell Rock Lighthouse.

Blindman's Buff.

Blue Bird.  
Blue Grotto, Capri.  
Bridal Party, Bay of Naples.  
Brooklyn Bridge, by Moonlight.  
Bull Fight in Spain.  
Burns and his Highland Mary.  
Burning of Sardanapalus.  
Call to Prayer.  
Can't you Talk?  
Capitol at Washington, Evening Session.  
Cattle at Watering.  
Cavalry Charge.  
Challenge.  
Chimney Sweep.  
Chorister Boys.  
Cinderella.  
Circe and Companions of Ulysses.  
Clear the Track.  
City of Venice.  
Cup of Friendship.  
Cupid a Captive.  
Dance of the Veil.  
Daring Highway Robbery.  
Devotedness—Dog Saving Child.  
Distinguished Member of Benevolent Society.  
Donheyster's Sweepstakes.  
Dream of Hope.  
Driving a Pair.  
English Railway Station.  
Evangeline.  
Explanation of Bible.  
Fairy Grotto.  
Family Cares.  
Family Happiness.  
Faust and Marguerite.  
Festival Night, Ancient Venice.  
Fetching the Doctor.  
Fete at Court of Cleopatra.  
Fight for the Flag.  
Flaw in the Title.  
Flight of a Soul.  
Forbidden Fruit.  
Forester's Family.  
Forgotten.  
Foundling Girls.  
Fountain of Love.  
From an Unknown Shore.  
From Shore to Shore.  
Goddess of Liberty.  
Good-Night—Constellation.  
Good-Night—Cherubs.  
Good-Night—Girl with Candle.  
Great Expectations.  
Here they Come!  
His only Pair.  
Horse Pair.  
Immaculate Conception. (Murillo.)  
Innocents Abroad.  
Jealousy.  
Jersey.  
Journeying in the Desert.  
Knitting Lesson.  
Ladies' Apartment, Ancient Rome.  
Lady in Waiting.  
Last Moments of Caesar.  
Lion Hunt.  
Little Harvesters.  
Little Red Riding-Hood.  
Love at First Sight.  
Lovers on the Lake.  
Lucretia and her Maidens.  
Madonna of Candlestick. (Raphael.)

Madonna of Chair. (Raphael).  
Madonna of St. Sixtus. (Raphael).  
Mammoth Cave, Kentucky.  
Meditation.  
Mermaid's Home.  
Milkmaid.  
Morning Call.  
Mute Appeal.  
Monarch of the Glen.  
Mother's Blessing.  
Mother's Dream.  
Mud Pies.  
My Dog and I.  
New York Harbor.  
Niagara Falls.  
Night.  
Night Watch.  
Nothing Venture, Nothing Have.  
New Whip.  
Ocean Steamer.  
Ocean Steamer, Moonlight.  
Oh! Boy on Ice.  
Oh! Astonished Rusties.  
Othello relating his Story.  
Paradise of Mahomet.  
Piper and a Pair of Nutcrackers.  
Prairie Travelers attacked by Indians.  
Pride and Humility.  
Romeo and Juliet.  
Rose of Destiny.  
Ruined Abbey, by Moonlight.  
American Steamship, Indiana.  
Spirit of "76"—"Yankee Doodle."  
Little Brother. (Von Bremen.)  
Inquietude.  
At the Spring.  
The Improvised Cup.  
The Three Friends.  
Souvenir.  
Rubens' Last Judgment.  
Titan's Madonna.  
Fay.  
The Picnic.  
Ship at Sea.  
Mother's Treasure. (Von Bremen.)  
The Courtship. (Von Bremen.)  
At the Fireside. (Von Bremen.)  
The Vestal Nun.  
Neil Gwynne.  
Neapolitan Peasants.  
The Greek Fugitives.  
A City of Ancient Greece.  
The Old Téméraire.  
The Wedding Eve.  
The New Lord of the Village.  
Glimpse of an English Homestead.  
The Highland Drover's Departure.  
The Stag at Bay.  
The Poultry Yard.  
The Blue Grotto of Capri.  
Puss in Boots.

# **Choice Selected Art Studies from Nature.**

*Artistically Colored, \$1.50 each.*  
Come Along.  
Feeding the Calves.  
At the Mill Door.  
"He Never Told His Love."

The Notice at the Mill Door.  
A Chat with the Miller.  
The Trespassers.  
Listening to the Bird Songs.  
Gilli Gyan Mill.  
The Valentine.  
The Haymakers.  
On the Brandywine.  
The Fisherman.  
At the Cottage Door.  
Good Night—Twins Asleep.  
The Surf on the Coast.  
At the Mercy of the Waves.  
A Winter Landscape.  
Falls of Minnehaha.  
Falls of Minnehaha—Through the Trees.  
After the Snow Storm.  
Dalles of the St. Croix.  
Ferns from the Tropics.  
Blarney Castle—Ireland.  
Valley of Glendalough—Ireland.  
Muckross Abbey, Killarney—Ireland.  
Blair Athol—Scotland.  
Kirk Alloway.  
Dryburg Abbey.  
Lighthouse at Nice.

# **The Last Voyage of the Ocean Steamer.**

*Finely colored, \$1.50; plain, 50 cents.*

- 1 Ocean Steamer Leaving Port.
- 2 Ocean Steamer in Mid-Ocean.
- 3 Ocean Steamer on Lee Shore.
- 4 Ocean Steamer on Fire.

# **Two Paths of Virtue and Vice.**

*Finely colored, \$1.50; plain, 50 cents.*

- 1 Childhood.
- 2 Youth.
- 3 Manhood.
- 4 Old Age.

# **Tam O'Shanter.**

*Finely colored, \$1.50; plain, 50 cents.*

- 1 "Gathering her brows like gathering storm,  
Nursing her wrath to keep it warm."
- 2 "The Souter tauld his queerest stories;  
The landlord's laugh was ready chorus."
- 3 "Nae man can tether time or tide;  
The hour approaches Tam maun ride."
- 4 "And, wow! Tam saw an uncouth sight!  
Warlocks and witches in a dance."
- 5 "And scarcely had he Maggie rallied,  
When out the hellish legion sallied."
- 6 "Ae spring brought off her master hale,  
But left behind her ain gray tail."

**New Tale of a Tub.***Finely colored, \$1.50; plain, 50 cents.*

- 1 Opening the Question.
- 2 Bengal Ease.
- 3 The Artful Dodge.
- 4 Look before you Leap.
- 5 Under Cover.
- 6 Increasing the Interest of the Tail—The Climax.

**Visit of St. Nicholas.***Finely colored, \$1.50; plain, 50 cents.*

- 1 "The Children were Nestled all Snug in their Beds."
- 2 "A Miniature Sleigh and Eight Tiny Reindeer."
- 3 "And he Looked like a Peddler just Opening his Pack."
- 4 "Merry Christmas to All, and to All a Good-Night."

**Natural Phenomena.***Finely colored, \$1.50; plain, 50 cents.*

- 1 Rainbow.
- 2 Aurora Borealis.
- 3 Ignis-Fatuus, or Will o' the Wisp.
- 4 Water Spouts.
- 5 Sand Storm.
- 6 Geysers, or Boiling Springs.
- 7 Falls of Niagara.
- 8 Coral Reefs.
- 9 Glaciers.
- 10 Icebergs.
- 11 Volcano, Mt. Vesuvius.
- 12 Prairie on Fire.

**Home, Sweet Home.***Finely colored, \$1.50; plain, 50 cents.*

- 1 "Be it ever so humble, there's no place like home."
- 2 "An exile from home, splendor dazzles in vain."
- 3 "How sweet 'tis to sit 'neath a fond father's smile."
- 4 "To thee I'll return, overburdened with care."

**A Christmas Hymn.***Finely colored, \$1.50; plain, 50 cents.*

- 1 "Had Rome been growing up to might, and now was queen of land and sea."
- 2 "The Senator of haughty Rome, impatient urged his chariot's flight."
- 3 "Within that province far away went plodding home a weary boor."
- 4 "How calm a moment may precede one that shall thrill the world forever."
- 5 "A thousand bells ring out, and throw their joyful peals abroad."

- 6 "For in that stable lay, new born, the peaceful Prince of earth and heaven."

**The Ill-Fated Ship.***Finely colored, \$1.50; plain, 50 cents.*

- 1 Leaving Port—Garneray.
- 2 Among the Icebergs—Morel Fatio.
- 3 Ship on Fire—Morel Fatio.
- 4 Crew Saved in Boats—Garneray.

**Important Events in European History.***Finely colored, \$1.50; plain, 50 cents.*

- 1 Gutenberg Showing his First Proof.
- 2 Columbus at Court of Ferdinand and Isabella.
- 3 Columbus returns from America.
- 4 Charles V Entering Antwerp.
- 5 Luther Burning the Pope's Bull.
- 6 The First Reformer's Protest.
- 7 William of Orange Pledges his Jewels for Defense of his Country.
- 8 Galileo Expounding his Theories.
- 9 Galileo before the Inquisition Tribunal.
- 10 Peter the Great Saved by his Mother.
- 11 Sobieski promises to assist Venice against the Turks.
- 12 James Watt's first Experiment with Steam.

**Perpendicular, Lever and Slip Movements.**

- 1 Curtain Slide.....\$3 25
- 2 Snow Slide.....1 75
- 3 Moon Slide, Lever.....2 25
- 4 Moon Slide, Perpendicular.....1 75
- 5 Moving Waters.....2 00
- 6 Assassination of Lincoln.....3 50
- 7 Good Night in Wreath.....2 75
- 8 Girl Jumping Rope.....3 50
- 9 Ascension of Christ, Lever.....3 50
- 10 Ascension, Perpendicular, Rack.....6 25

**Revolving Movements.**

- 1 Dancing Skeleton...\$4 50
- 2 Castle-on-Lake Maggiore.....3 50
- 3 Bombardment of Fort Sumter.....3 50
- 4 Bombardment of Fort Sumter, with Flash.....4 00
- 5 View of Old Ruins...3 50
- 6 Holland Windmill...4 00
- 7 Fountain.....4 25
- 8 Newton's Disk.....5 50
- 9 Ratecatcher.....4 25
- 10 Mount Vesuvius.....3 50
- 11 Rotation of Earth on its Axis.....4 00
- 12 Rotundity of Earth. 4 00

- 13 Dancing Sailor.....\$4 50
- 14 Swiss Water Mill....4 00
- 15 Aquarium.....4 25
- 16 Bee Hive.....4 25
- 17 Gymnast Performing on Trapeze.....4 50
- 18 Man Climbing a Ladder.....5 00
- 19 Fire and Smoke Effect for Fort Sumter.....3 00
- 20 Fire and Smoke Effect for Naples and Vesuvius.....3 00
- 21 Fireworks Effect for St. Angelo and St. Peters.....3 00
- 22 Aurora Borealis, Effect for North Pole 3 00
- 23 Fire and Smoke Effect for Mt. Etna 3 00
- 24 Smoke Effect for Christmas Eve.....3 00

**Mechanical Slides.**

- 1 Lever Slide and Panorama of Ships. The ships are seen through the port-hole in the cabin, which is all in motion—Man seen in berth, sick. Two slides. Very effective.....\$11 50
- 2 Bear Hunt. View in Arctic regions—Moon plays on the water and disappears—Bear comes on rock—Boat sails up—Men fire—Bear falls on ice. Two slides. Five effects. 8 50
- 3 Vision of the Golden Candlestick and Angel. Two slides. 7 50
- 4 Refraction of Light in the Polar Seas. Spectral ships. New.....7 00
- 5 Dancing Skeleton. Two effects.....4 00
- 6 Spider's Web. Fashionably dressed young lady in the center, around whom a number of admirers revolve. Two Rackwork slides.....13 50
- 7 Panoramic Slide View. Straits of Dover with Calais-Douvres steaming past.....7 50
- 8 Panoramic Slide View. Mid-Atlantic, mail steamer, Britannic, steaming past.....7 50
- 9 Harpooning the Whale Effect, smashing the boat. Two slides.....9 50
- 10 The mail steamer, Arizona—Striking the iceberg (movable). Two slides. 10 50
- 11 Water Wheel. Summer view. Wheel turning—Winter—Effects of Moon



- playing on the water, and swan with moving head.  
Four slides.....19 00  
12 Windmill, sails in motion. Summer and winter. Two slides.....\$10 50  
13 The Magic Fountain, rack effect of water playing. Two slides 10 50  
14 Fishing, a bite, and comical effects. Two slides ..... 6 50  
15 A Child's Dream of Christmas. Two slides ..... 7 50  
16 The Kaleidoscope... 2 50

### Dioramic and Panoramic.

- 1 Israelites Crossing the Red Sea..... \$4 00  
2 Noah Entering the Ark..... 4 00

### New Panorama Slides.

- 1 Jerusalem in her Grandeur... \$6 00  
2 Jerusalem in her Decay ..... 6 00  
3 Washington Crossing the Delaware... 6 00  
4 The Prodigal Son... 6 00

### Chromatropes.

- 1 and 2 Geometrical... \$3 00  
3 Washington... 3 75  
4 Lincoln ..... 3 75  
5 Good-Night... 3 75  
6 Welcome..... 3 75  
7 The National Flag..... 3 00  
8 The Garfield... 3 75

### Natural Clouds.

Plain slides 50 cents each. Colored and wood-mounted, three-inch circle, \$1.50 each. These may be used with single or dissolving lantern, and produce beautiful effects with other plain photographs.

- 1 Sunrise.  
2 Sunset.  
3 Breaking away.  
4 Broken Sky.  
5 Flecked Sky.  
6 Thunder Storm.

### Water.

- 1 Shores of Old England.  
2 Storm at Sea.  
3 All that was left of the Homeward Bound.  
4 Niagara Falls.  
5 Rapids, Niagara.

### Cloud and Water.

- 1 Sea Gull's Rock.  
2 Venetian Boating Scene.  
3 Ship on Fire at Sea.  
4 Shipwrecked Mariners.

### Snow and Ice.

- 1 A Winter Landscape.  
2 Icicles at Niagara.  
3 Glacier in the Alps.  
4 Minnehaha Falls.  
5 Mt. Washington.

### Statuary.

Blacked out, 75 cents each.

- 1 Achilles.  
2 Apollo.  
3 Apollo Belvidere.  
4 Africane.  
5 America.  
6 Aurora.  
7 Angel's Love.  
8 Ariadne and the Tiger.  
9 Albert Memorial, London.  
10 Albert Memorial, America.  
11 Brother and Sister.  
12 Bacchus.  
13 Blind Man's Buff.  
14 Birth of Cupid.  
15 Beggar Boy.  
16 Baby's Death.  
17 Berenice.  
18 Birdie.  
19 Birth of Love.  
20 Children and Bird.  
21 Cold.  
22 Cupid.  
23 Christmas Day.  
24 Childish Pleasure.  
25 Chase (Bust).  
26 Clio.  
27 Diana.  
28 Dante (Florence).  
29 Dante (Bust).  
30 Dying Gladiator.  
31 Drop That.  
32 Evening.  
33 Emperor William (Bronze Bust).  
34 Emancipation.  
35 Eve.  
36 Eve before the Fall.  
37 First Sensations of Cold Water.  
38 Flying Time.  
39 Feint and Tenderness.  
40 Free Church and Free State.  
41 Flora.  
42 Fisherman's Daughter.  
43 Flower Girl.  
44 Girl and Serpent.  
45 Girl as a Butterfly.  
46 Grief.  
47 Girl at Bath.  
48 Genius of the Vatican.  
49 Good Morning.  
50 Ganymede and Eagle.  
51 Hope.  
52 Hebe.  
53 Hercules and Antinous.  
54 Hypatia.  
55 Horse attacked by Amazon.  
56 Hebe and Ganymede.  
57 Italian Boy and Monkey.  
58 Industry.  
59 Joy.  
60 Joy and Grief.  
61 Juno.  
62 Lucius Verus.  
63 Leda and the Swan.  
64 Love's Messenger.  
65 Love Blind.  
66 Love's Net.  
67 Lincoln (Bust).  
68 Lot's Wife.  
69 Love's Mirror.  
70 Mercury Flying (Minerva).  
71 Miriam.  
72 Moses (Michael Angelo).  
73 Misfortune.

- 74 Masquerade.  
75 Mother's Treasure.  
76 Modesty.  
77 Michael Angelo (Bust).  
78 Mercury.  
79 Morning (Copeland).  
80 Michael Angelo.  
81 Marguerita.  
82 Maid of Judah.  
83 Niobe and Daughter.  
84 Nydia.  
85 Nydia, the Blind Girl of Pompeii.  
86 Nursing the infant Bacchus.  
87 Night (Copeland).  
88 Opeelia.  
89 Out in the Rain.  
90 Our Savior.  
91 Orpheus.  
92 Pandora.  
93 Pharaoh's Daughter.  
94 Purity.  
95 Phryne.  
96 Psyche.  
97 Ruth.  
98 Recreation at School.  
99 Rejected.  
100 Ratanplan.  
101 Rebecca.  
102 Rosebud.  
103 Romulus and Remus.  
104 Rubens.  
105 Shakespeare (Bust).  
106 Shakespeare (Ward).  
107 Statue of Adam (Milan).  
108 Statue of Eve (Milan).  
109 Sunshine.  
110 Storm.  
111 Soap Bubbles.  
112 St. Martin and the Beggar.  
113 Seward (Bust).  
114 Spirit of the Carnival.  
115 Sappho.  
116 Spirit of Liberty.  
117 Simply to Thy Cross I Cling.  
118 Sisyphus.  
119 Scalding of the Boar.  
120 The Young Bacchus.  
121 The Forced Prayer.  
122 The First Step.  
123 The Rebuke.  
124 The Orphans.  
125 The Butterfly.  
126 The White Rose.  
127 The First Call.  
128 The Rose.  
129 The Pet Bird.  
130 The Minute Man.  
131 The Adulteress.  
132 The Future Artist.  
133 The Pharaoh (Bust).  
134 The First Child.  
135 The Sick Kitten.  
136 The Infant Moses.  
137 The Bird's Nest.  
138 The World.  
139 The West.  
140 The Tambourine Girl.  
141 The Last Days of Pompeii.  
142 The Gardener's Daughter.  
143 The First Pose.  
144 The Three Graces.  
145 The Greek Slave.  
146 The Serenade.  
147 The Courtship.  
148 The Bird Family Monument.  
149 The Cymbal Player.  
150 The Muse of Painting.  
151 The Mother's Prayer.

- 152 The Laocoon.
- 153 The Compulsory Prayer.
- 154 The American Volunteer.
- 155 Thetis.
- 156 Timidity.
- 157 Una and the Lion.
- 158 Venus of Canova.
- 159 Venus Milo.
- 160 Venus Vetric.
- 161 Venus Going into the Bath.
- 162 Vanity.
- 163 Viola.
- 164 Vulcan.
- 165 Water Babies.
- 166 Young Dante.
- 167 Young Raphael.

*Thorwaldsens.**Blacked out, 75 cents each.*

- 1 A Shepherdess with nest of Cupids.
- 2 Air, Cupid on the Eagle.
- 3 Amour and Bacchus.
- 4 Amour and Psyche.
- 5 Autumn.
- 6 Boys Gathering Fruit.
- 7 Christ.
- 8 Christ Blessing Children.
- 9 Cupid with the Dog—Faithfulness.
- 10 Cupid with the Net—Inconstancy.
- 11 Earth—Cupid with the Lion.
- 12 Fire—Cupid abducting Cerberus.
- 13 Harvest.
- 14 Health, or Æsculapius and Hygeia.
- 15 Justice, or Jupiter and Nemesis.
- 16 Morning.
- 17 Mary with the Child Jesus.
- 18 Night.
- 19 Spring.
- 20 Summer.
- 21 Strength, or Hercules and Hebe.
- 22 St. Matthew.
- 23 St. Mark.
- 24 St. Luke.
- 25 St. John.
- 26 Seasons, the—  
Spring.  
Summer.  
Autumn.  
Winter.
- 27 Venus with the Golden Apple.
- 28 Wisdom, or Minerva and Prometheus.
- 29 Winter.
- 30 Water, or Cupid riding on a dolphin.

*Rogers.**Blacked out, 75 cents each.*

- 1 Council of War.
- 2 Challenging the Union Vote.
- 3 Coming to the Parson.
- 4 Courtship in Sleepy Hollow.
- 5 Country Postoffice.
- 6 Charity Patient.
- 7 Checkers up a the Farm.
- 8 Fairy's Whisper.
- 9 Fugitive's Story.
- 10 Fetching the Doctor.
- 11 Going for the Cows.

- 12 Home Guard.
- 13 It is so Nominated in the Bond.
- 14 Mail Day.
- 15 Othello.
- 16 One More Shot.
- 17 Polo.
- 18 Private Theatricals.
- 19 Playing Doctor.
- 20 Parting Promise.
- 21 Picket Guard.
- 22 Return Volunteers.
- 23 Rip Van Winkle Returned.
- 24 Rip Van Winkle at Home.
- 25 Rip Van Winkle on the Mountain.
- 26 School Examination.
- 27 School Days.
- 28 Taking the Oath.
- 29 The Balcony.
- 30 The Peddler at the Fair.
- 31 The Traveling Magician.
- 32 The Referee.
- 33 The Wrestlers.
- 34 The Photographer.
- 35 The Favorite Scholar.
- 36 The Foundling.
- 37 The Bushwhacker.
- 38 The Village Schoolmaster.
- 39 The Checker Player.
- 40 The Sharpshooters.
- 41 The Shaugraun and Tatters.
- 42 The Tap on the Window.
- 43 The Mock Trial.
- 44 Town Pump.
- 45 Uncle Ned's School.
- 46 Union Refugee.
- 47 Wounded Scout.
- 48 We Boys.
- 49 Weighing the Baby.

**Portraits.**

- 1 Anderson, Major.
- 2 Alphonso, King of Spain.
- 3 Austria, Emperor of.
- 4 Austria, Empress of.
- 5 Agassiz.
- 6 Arnold, Mathew.
- 7 Alice, Princess.
- 8 Arkyie, Duke of, A. G.
- 9 Anderson, Mary.
- 10 Arnold, Benedict.
- 11 Brete Harte.
- 12 Browning, Robert.
- 13 Beatrice, Princess.
- 14 Belgium, King of.
- 15 Belgium, Queen of.
- 16 Bismarck, Prince.
- 17 Battenberg, Prince of.
- 18 Browning, Mrs. Elizabeth Barrett.
- 19 Broughton, Miss Rhoda.
- 20 Beaconsfield, Earl of, K. G.
- 21 Bright, Hon. Jno., M. P.
- 22 Bonaparte, Napoleon.
- 23 Bonaparte, Napoleon, Crossing the Alps. (Davids.)
- 24 Bonaparte, Napoleon, Crossing the Alps. (De La Roche.)
- 25 Bonaparte, Napoleon, Prince Louis.
- 26 Bonaparte, Napoleon, III.
- 27 Beaver, General.
- 28 Bryant, William Cullen.
- 29 Beecher, Henry Ward.
- 30 Burus, Robert.
- 31 Brown-Sequard, Dr.

- 32 Beauregard, General.
- 33 Buell, General D. C.
- 34 Burnside, General.
- 35 Clemens, Samuel S. ("Mark Twain").
- 36 Canterbury, Dean of.
- 37 Carlos, Don.
- 38 Christian, Prince of Hesse.
- 39 Christian, Princess of Hesse.
- 40 Connaught, Duke of.
- 41 Connaught, Duchess of.
- 42 Carlyle, Thomas.
- 43 Cleveland, Ex-President.
- 44 Cleveland, Mrs.
- 45 Cornwallis, Lord.
- 46 Clay, Henry.
- 47 Denmark, King of.
- 48 Denmark, Queen of.
- 49 De Lesseps, Ferdinand.
- 50 Darwin, Charles.
- 51 De Lafayette, Marquis.
- 52 Douglas, Stephen A.
- 53 Douglas, Frederick.
- 54 Dickens, Charles.
- 55 Don Carlos.
- 56 Eugenie, Empress.
- 57 Edinburgh, Duke of.
- 58 Edinburgh, Duchess of.
- 59 Emerson, Ralph Waldo.
- 60 Everts, William M.
- 61 Edison, Thomas.
- 62 Elizabeth, Queen.
- 63 Egypt, Khedive of.
- 64 Elsworth, Col. E. E.
- 65 Froude, James Anthony.
- 66 Farrar, Canon.
- 67 Fillmore, Millard.
- 68 Franklin, Benjamin.
- 69 Farragut, Admiral.
- 70 Gerome.
- 71 Grant, General.
- 72 Germany, Emperor of.
- 73 Germany, Crown Prince of.
- 74 Germany, Crown Princess of.
- 75 Grevy, M.
- 76 Greece, Queen of.
- 77 Granville, Earl.
- 78 Gordon, Gen'l (Chinese).
- 79 Gladstone, Hon. William Ewart.
- 80 Gates, General.
- 81 Garfield, Gen. J. A.
- 82 Goethe.
- 83 Holmes, Oliver Wendell.
- 84 Hugo, Victor.
- 85 Hayes, Rutherford B.
- 86 Humboldt, Baron Von.
- 87 Hayden, Professor.
- 88 Harrison, President.
- 89 Harrison, Mrs.
- 90 Hancock, General.
- 91 Howard, Gen. O. O.
- 92 Irving, Henry.
- 93 Italy, Queen of.
- 94 Jackson, Stonewall.
- 95 Kearney, General.
- 96 Kilpatrick, General.
- 97 Leo, Pope, XIII.
- 98 Longfellow, H. W.
- 99 Lotia (as the Marchioness).
- 100 Louise, Princess.
- 101 Lorne, Marquis of.
- 102 Lorne, Marchioness of.
- 103 Langtry (The Lily).
- 104 Lincoln, Abraham.
- 105 Logan, John A.
- 106 Luther, Martin.
- 107 Lee, Robert E.

- |                             |  |  |
|-----------------------------|--|--|
| 108 Lincoln and Cabinet.    | 130 Ruskin, John.                      | 150 Thurman, Judge A. G.               |
| 109 Letterman, Dr. A. J.    | 131 Raphael.                           | 151 Thomas, Gen. "Pap."                |
| 110 Lafayette, Gen. M. De.  | 132 Rosecranz, General.                | 152 Victoria.                          |
| 111 Muller, Max, Prof.      | 133 Spurgeon, Rev. C. H.               | 153 Victoria, Queen of England.        |
| 112 Millais, John Everett.  | 134 Sweden, King of.                   | 154 Von Humboldt, Baron.               |
| 113 Manning, Cardinal.      | 135 Sweden, Queen of.                  | 155 Whittier, John G.                  |
| 114 Milton, John.           | 136 Spencer, Herbert.                  | 156 Wales, Prince of.                  |
| 115 Michael Angelo.         | 137 Swinburne, A. C.                   | 157 Wales, Princess of.                |
| 116 Mary Queen of Scots.    | 138 Salisbury, Lord.                   | 158 Wales, Prince and Princess, Group. |
| 117 Morton, Vice President. | 139 Stevens, Thaddeus.                 | 159 Wales, Princess of, H.R.H.         |
| 118 McDowell, General.      | 140 Scott, Gen. Winfield.              | 160 Wolseley, General Lord.            |
| 119 Napoleon I.             | 141 Scott, Sir Walter.                 | 161 Washington, George. (Marshall.)    |
| 120 Napoleon, Prince Louis. | 142 Shakespeare, William.              | 162 Washington, George. (Stewart.)     |
| 121 Nelson, Lord Admiral.   | 143 Sully, Thomas.                     | 163 Washington, George.                |
| 122 Pope Leo XIII.          | 144 Sullivan, John L.                  | 164 Wellington, Duke of                |
| 123 Patti, Madame Adelina.  | 145 Sheridan, F. H. (Little Phil.)     | 165 Young, Brigham.                    |
| 124 Pasteur, M.             | 146 Scott, Walter.                     | 166 Yonge, Charlotte.                  |
| 125 Portugal, King of.      | 147 Tennyson, Alfred.                  |  |
| 126 Portugal, Queen of.     | 148 Tennyson, Alfred. "Poet Laureate." |  |
| 127 Parnell, Charles S.     | 149 Terry, Ellen.                      |  |
| 128 Russia, Czar of.        |  |  |
| 129 Reade, Charles.         |  |  |

## TEMPERANCE SLIDES.

*Finely Colored, \$1.50. Plain, 50 cents.*

### Ten Nights in a Bar-room.

*With a Lecture.*

- Arrival at the Sickie and Sheaf.
- Joe Morgan's little Mary asks her father to come home.
- Slade throws a glass at Joe Morgan and hits Mary.
- Joe Morgan suffering the horrors of *delirium tremens*.
- The death of little Mary.
- Frank Slade and Tom Wilkins riding off on a spree.
- Willie Hammond induced by Harvey Green to gamble.
- Harvey Green stabs Willie Hammond to death.
- Quarrel between Slade and his son Frank.
- Frank Slade kills his father with a bottle.
- Meeting of the citizens in the bar-room.
- The departure from the Sickie and Sheaf.

### Stomach of the Drunkard.

*With a Lecture.*

- Internal surface of the stomach in healthy condition.
- Stomach of the moderate drinker.
- Stomach of the drunkard.
- Inner surface of the stomach of a drunkard after a debauch.
- Inner surface of the ulcerated stomach of the drunkard.
- Appearance of the scirrhous stomach of a drunkard.
- Interior of the stomach of drunkard upon the verge of the grave.

- Inner surface of the stomach of a distinguished individual who died in a state of *delirium tremens*.

### The Drunkard's Progress.

*With a Lecture.*

- Domestic happiness—the greatest of earthly blessings.
- The Temptation—Lead me not into temptation.
- Introduction of sorrow—a loving heart made sad.
- The rum-hole—a substitute for home.
- Rum instead of reason.
- Degraded humanity.
- The cold shoulder by old friends.
- Rumseller's gratitude—Rejection instead of infection.
- Poverty and want.
- Robbery and murder—the result of drunkenness.
- Mania-a-potu—the horror of horrors.
- The death that precedes eternal death.

### The Man and the Beast.

- Temperance—The Man.
- Temperance—The Beast.

### The Bottle.

*With a Lecture.*

From the Originals, by G. Cruikshank.

- The bottle is brought out for the first time. The husband induces his wife just to take a drop.
- He is discharged from his employment for drunkenness. They pawn their clothes to supply the bottle.
- An execution sweeps off the greater part of their furniture. They comfort

themselves with the bottle.

- Unable to obtain employment, they are driven by poverty into the streets to beg, and by this means still supply the bottle.
- Cold, misery and want destroy their youngest child. They console themselves with the bottle.
- Fearful quarrels and brutal violence are natural consequence of the frequent use of the bottle.
- The husband, in a furious state of drunkenness, kills his wife with the instrument of all their misery.
- The bottle has done its work—it has destroyed the infant and the mother; it has brought the son and daughter to vice and to the streets, and has left the father a hopeless maniac.

### The Drunkard's Daughter.

*Six Slides, \$0.00 a Set.*

- Alone in the World.
  - Making Shirts in a Garret.
  - Pay Refused for her Work.
  - Out in the Street.
  - The Leap from the Bridge.
  - Take her up Tenderly.
- The above are entirely new and very interesting. A detailed lecture will be given free to all buyers of the slides.

### From Champagne to the End.

*Per Set, including Poem, \$6.00. Per Slide, \$1.50.*

- Champagne in the Parlor.
- Brandy in the Bar-room.
- Whisky in the Grog-shop.
- Cold Water in the Bay.

### Father, Dear Father, Come Home.

- 1 Father, dear Father, come home with me now,  
The clock in the steeple strikes one.
- 2 With poor brother Benny so sick in her arms,  
And no one to help her but me.
- 3 Father, dear Father, come home with me now,  
The clock in the steeple strikes two.
- 4 The night has grown colder, and Benny is worse,  
But he has been calling for you.
- 5 Father, dear Father, come home with me now,  
The clock in the steeple strikes three.
- 6 Yes, we are alone, poor Benny is dead  
And gone with the angels of light.

### The Gambler's Career.

- 1 The first seed of passion planted in the young mind.
- 2 The development of the passion with higher stakes.
- 3 Finding himself always the loser, he resorts to false play.
- 4 He is detected and roughly handled by his friends.
- 5 Having finally lost all, he leaves the gaming house in despair and madness.
- 6 He ends his life in a madhouse, still occupied with his ruling passion.

### Buy Your Own Goose.

- 1 Excuse me interrupting your harmony, gentlemen, but the Goose Club has commenced.
- 2 I'll play Lizzy a trick! Here, my lad, take this basket to No. 6, opposite.
- 3 I've been a goose long enough, Lizzy, now I've bought my own goose.
- 4 Eli fetches his old mother from the workhouse to spend Christmas Day with them.
- 5 Grandmother wishes to hear Lizzy read out of her father's old Bible.
- 6 Eli's old companions leaving the Golden Fleece on Christmas Eve.

### Buy Your Own Cherries.

- 1 John Lewis told to buy his own cherries.
- 2 John Lewis buys his own cherries.
- 3 John Lewis enjoying them in his workshop.
- 4 John Lewis giving his wife his week's earnings.
- 5 John Lewis bargaining for a leg of mutton.
- 6 John Lewis builds a nice row of houses.

- 7 John Lewis and family in their own freehold house.

### The Drunkard's Children.

- 1 Neglected by their parents, they are led to the gin shop.
- 2 Between the gin shop and the beer shop, the hoy thief squanders away his ill-gotten gains.
- 3 From the gin shop to the dancing rooms, the poor girl is driven on to misery.
- 4 Urged on by his companions and drink, he commits a desperate robbery.
- 5 From the bar of the gin shop to the bar of the Old Bailey is but one step.
- 6 He is sentenced to transportation for life, the girl is acquitted. The brother and sister part for ever in this world.
- 7 The wretched convict droops and dies.
- 8 The poor girl, homeless, destitute, and gin-mad, commits self-murder.

### The Whisky Demon: or, Dream of the Reveler.

- 1 The Whisky Demon.
- 2 The reveler.
- 3 The demon cask o' whisky.
- 4 The demon's home.
- 5 The five drops.
- 6 The drunkard's home.
- 7 The three roads.
- 8 The demon's first house.
- 9 The demon's second house.
- 10 The demon's third house.
- 11 The demon's hour glass.
- 12 The end.

### The Gin Shop.

- 1 This is the gin shop all glittering and gay.
- 2 These are the drinks that are sold night and day.
- 3 This is the landlord who coins his bright gold.
- 4 This is the landlady, all jewels and lace.
- 5 These are the customers, youthful and old.
- 6 This is the drunkard in rags and disgrace.
- 7 This is the woman with woe-begone face.
- 8 This is the pastor, so noble and kind.
- 9 This is the pledge the poor drunkard signed.
- 10 There is the church, to which, one Sabbath-day.
- 11 This is text which the good pastor chose.
- 12 This is the cottage, the home of delight.

### The Travels of the Sultan of Ragobaga in Grogoland.

- 1 Arrival of the Sultan in his Aërial Chariot.

- 2 Procession and introduction to the Princess Barhouda.
- 3 Grand Banquet.
- 4 Outside of Fire Water Temple.
- 5 Inside of Fire Water Temple.
- 6 The Vision, Woman and Dying Child—the Suicide.
- 7 In the Auction Room—the Poison and the Price.
- 8 Railway Station, Accident.
- 9 Court Scene, Girl in Dock.
- 10 Temperance Lighthouse.
- 11 Condemned Cell.
- 12 Expenditure and Mis-expenditure.
- 13 Abode of All-Goul.
- 14 St. Giles'—Misery.
- 15 St. James'—Happiness.

### Progress of Intemperance.

- 1 Invitation to drink.
- 2 Sickness and Repentance.
- 3 The Relapse.
- 4 The Ruined Family.
- 5 The Expectant Wife.
- 6 The Robber.

### John Hampden's Home.

- 1 The Gin Shop.
- 2 The Wretched Home.
- 3 The Happy Home.
- 4 The Home of God.
- 5 The call to Repentance.
- 6 The Happy Death.

### An Old Story.

- 1 Introduction, with Portrait of Author.
- 2 Watching and Waiting. (Millais.)
- 3 And called the picture "Innocence." (B. Foster.)
- 4 In the bleak wind unsheltered. (G. Doré.)
- 5 Taught their children thus. (Alma Tadema.)
- 6 The glory days of devils. (L. J. Pott.)
- 7 Alas for desolated homes. (N. Chevalier.)
- 8 A stout fisher wife. (Thos. Faed.)
- 9 To my home come. (Marcus Stone.)
- 10 A girl self-drowned. (E. Sheppard Kennedy.)
- 11 What are these women doing? (P. R. Morris.)
- 12 The Guiding Angel heard their song. (W. C. Thomas.)
- 13 The prayer was heard. (Sant.)
- 14 Outside the women and the children. (Montbard.)
- 15 Both whisky m a d. (E. Nicol.)
- 16 I sent my daughter out to beg. (R. Lehman.)
- 17 A poor street stray. (W. Macduff.)
- 18 At break of day. (John Tenniel.)
- 19 On the battle field I lay. (Elizabeth Thompson.)

- 20 I must be a thief. (Dobson.)
- 21 Pitted of happy children. (W. Hemsley.)
- 22 The maiden in her prime. (Fred. Passmore.)
- 23 The last half-hour. (Cruikshank.)
- 24 Girl examples richly dowered. (Storey.)
- 25 For he's a jolly good fellow. Which nobody can deny. (Sir Noel Paton.)
- 26 Pray God to bless the donor. (Barrison Weir.)

### Boons and Blessings.

- 1 The drunkard's Bible.
- 2 A rolling stone.
- 3 What he lost.
- 4 It's never too late.
- 5 Mary Riley's simple story.
- 6 The worn thimble.
- 7 Rest and be thankful.
- 8 Building a house with a tea-cup.
- 9 Pepper and her foes.
- 10 The two friends.
- 11 It's only a drop.
- 12 Bridget Larkins.
- 13 The true temperance cordial.
- 14 Mrs. Grant's perplexities.
- 15 Digging a grave with a wine glass.
- 16 First drop.

### The Trial of Sir Jasper.

- 1 Frontispiece—the Golden mean of temperance.
- 2 "With memories black of many a bitter blow, Dealt when the father's soul was dark with gin."
- 3 "Hungry and footsore, and without a bed; Starving—yet dare not touch the meat and bread."
- 4 "A miserable tramp through the streets: No aid she asks; no sympathy she meets."
- 5 "She is not in the streets; beneath the trees, That shade herghood home, she sits."
- 6 "Is it too late to save him? God, we pray His guardian angel may not pass away."
- 7 "Ten thousand devils haunt him day and night, Haunt him alike in darkness and in light."
- 8 "A common incident of blighted life: Mourn for the wretched sufferers—child and wife."
- 9 "See the degraded wretch we picture here: He blights the corn before it reach the ear."
- 10 "Over the lone grave of the suicide."
- 11 "No better man when sober; drunk none worse."

- 12 "The artist paints him—lowest of the low: Alas! Giles Johnson; 'twas not always so!"
- 13 "And let the artist draw his picture now; Draw Farmer Jonson—home from his own plough."
- 14 "They laid the dead wife on the floor."

### The Harlot's Progress.

- 1 The country girl arrives in town.
- 2 Polly quarrelling with the Jew.
- 3 Polly in her lodgings in Drury Lane.
- 4 Polly in the Bridewell Prison.
- 5 Worn out by disease, poor Polly dies.
- 6 The sisterhood meet for the funeral.

### The Rake's Progress.

- 1 The youth just come into possession of his property.
- 2 He indulges in the height of passion and excess.
- 3 The rake in a house of ill-fame, drunk and incapable.
- 4 He is arrested for debt.
- 5 Having spent all his money, he marries a rich old maid.
- 6 He loses his money at a gaming table.
- 7 He is thrown into the debtors' prison.
- 8 The rake a hopeless lunatic in Bedlam.

### Rumors of an Election.

- 1 The feast.
- 2 Canvassing for votes.
- 3 The polling at the hustings.
- 4 The chairing of the member.

### Marriage A-la-Mode.

- 1 The marriage settlement.
- 2 The husband stays out all night, and comes home drunk in the morning.
- 3 He seeks advice from a French quack doctor.
- 4 The wife, now becomes a countess, has morning concerts at her toilette.
- 5 The husband detects his wife's inconstancy, and loses his life.
- 6 The wife dies by poison.

### The Return from the Tavern.

- 1 The Departure.
- 2 The Misconception.
- 3 The Remonstrance.
- 4 The Return to the Tavern.

### The Gin Fiend.

- 1 The Gin Palace.
- 2 The suicide.
- 3 The murder.
- 4 Turned out.

### Worship of Bacchus.

- 1 Introduction.
- 2 Delusive character of intoxicating liquors.
- 3 The grains.
- 4 The beer.
- 5 Loss of nutriment.
- 6 Analysis of a gallon of ale.
- 7 Condensed beer.
- 8 Which will you buy, bread or beer?
- 9 What the abstainer may look upon—What the drinker has to look upon.
- 10 Excuses made for drinking.
- 11 Proportion of alcohol.
- 12 Proportionate quantity of proof spirit.
- 13 Unfermented and fermented wine.
- 14 Evils resulting from the use of alcoholic liquors.

### Little Tiz.

- 1 It was a last will and testament.
- 2 A party at Mr. Lorraine's, Langside Hall.
- 3 "Come, we must have a song from Little Tiz."
- 4 Little Tiz and George in the library.
- 5 In the woods, the neck-lace of flowers.
- 6 Dr. Pearson's little parlor.
- 7 "I've been thinking of a plan."
- 8 She peered out into the dark.
- 9 She fell with a sudden gasp.
- 10 "Ye bide up that court, Mrs. Mactavish."
- 11 Oh, merciful heaven, the sight!
- 12 Crouching over the miserable fire.
- 13 Little Tiz put her tiny arms round his neck.
- 14 In the silent valley of death.

### The Foolish Toper.

- 1 Deep, deep they drank.
- 2 A boery quarrel.
- 3 One form of assault.
- 4 Liquidating a debt.
- 5 The insulting stranger.
- 6 "Mind your eye!"
- 7 "I'll pay you out."
- 8 Slaughter of the stranger.
- 9 The dead stranger's Ghost.
- 10 Oversetting Obstructionists.
- 11 A forceful capture.
- 12 His country's care.

### The Tipsy Geese.

- 1 The farmer's wife exclaimed.
- 2 The excited geese run, and on the spot!
- 3 Oh, woful sight!
- 4 But soon she plucked up courage.
- 5 Reflecting when you have no geese.
- 6 The geese were but dead drunk.

## SECRET SOCIETY SLIDES.

The usual scenes required for illustrating Secret Society work are named below. These are made from very elaborate, correct and beautiful drawings, elegantly colored, and are greatly superior in every respect to anything ever before offered, although the subjects named are the same as in other catalogues.

### Masonic.

*These slides are furnished either colored at \$1.50 each or plain at 50 cents each.*

#### First Degree.

- 1 Holy Bible, Square, Compass and Warrant.
- 2 Ancient Lodge in Valley.
- 3 Form of Lodge.
- 4 Supports of Lodge.
- 5 Jacob's Ladder.
- 6 Furniture of Lodge.
- 7 Ornaments of Lodge.
- 8 Lights of Lodge.
- 9 Jewels of Lodge.
- 10 Tabernacle in Wilderness.
- 11 St. John the Baptist, and St. John the Evangelist.
- 12 Masonic Tenets.
- 13 Points of Entrance.
- 14 Chalk, Charcoal and Clay.

#### Fellowcraft's Degree.

- 15 Pillars of the Porch.
- 16 Five Orders of Architecture.
- 17 The Five Senses.
- 18 Seven Liberal Arts.
- 19 Scene at the Waterfall.
- 20 Corn, Wine and Oil.
- 21 Allusion to the Letter G.

#### Master Mason's Degree.

- 22 Building of King Solomon's Temple.
- 23 Marble Monument.
- 24 Ancient Three Grand Masters.
- 25 Entered Apprentice's Lodge.
- 26 Fellowcraft's Lodge.
- 27 Master Mason's Lodge.
- 28 Three Steps.
- 29 Pot of Incense.
- 30 Bee-Hive.
- 31 Book of Constitution Guarded by Tyler's Sword.
- 32 Sword Pointing to Naked Heart, and All-Seeing Eye.
- 33 Anchor and Ark.
- 34 Forty-seventh Problem.
- 35 The Hour-Glass.
- 36 The Scythe.
- 37 Emblems of Mortality.

#### Royal Arch Chapter.

- 38 The Burning Bush.

#### Commandery.

- 39 Angel at Sepulchre.
- 40 The Three Marys at Tomb.
- 41 Ascension of Christ.

#### Prelate.

- 42 The Valley of Dry Bones.
- 43 The Crucifixion.
- 44 Body of Christ in Tomb.
- 45 Resurrection of Christ.
- 46 The Cross.
- 47 The Pilgrim.
- 48 The Knight.

- 49 The Penitent.
- 50 Christ on the Cross.
- 51 Death on the Pale Horse.
- 52 Human Skull.
- 53 John at Patmos.
- 54 Faith at the Cross.
- 55 Cross and Crown of Glory.

### Patriotic Order of Sons of America Slides (White Degree).

*The set, beautifully colored, \$18.  
The set, plain, \$6.*

- 1 Landing of the Pilgrims.
- 2 The Battle of Bunker Hill.
- 3 Washington Crossing the Delaware.
- 4 Washington at Prayer at Valley Forge.
- 5 Battles of the Revolution, and dates.
- 6 Battles of the Rebellion, and dates.
- 7 Firing on Fort Sumter.
- 8 Rally of Our Troops at Washington.
- 9 Scene of Peace (Family Group).
- 10 School House.
- 11 Sons of America in full Regalia.
- 12 Battles of the Wars of 1812, Florida and Mexico and dates.

### Odd Fellows.

*Per Slide, \$1.50: plain, 50 cents.*

A new and superior series, from new designs, for the new work of the Independent Order of Odd Fellows.

#### Initiatory Degree.

- 1 All-seeing Eye.
- 2 Three Links.
- 3 Skull and Cross-Bones.
- 4 The Scythe.

#### First Degree.

- 5 Bow and Arrow.
- 6 The Quiver.
- 7 The Bundle of Sticks

#### Second Degree.

- 8 The A. X.
- 9 Heart and Hand.
- 10 The Globe.
- 11 The Ark.
- 12 The Serpent.

#### Third Degree.

- 13 Scales and Sword.
- 14 The Bible.
- 15 The Hour-glass.
- 16 The Coffin.

#### Encampment Emblems.

- 17 The Three Pillars.
- 18 The Tent.

- 19 Pilgrim's Scrip, Sandals and Staff.
- 20 The Altar of Sacrifice.
- 21 Tables of Stone, Crescent and Cross.
- 22 Altar of Incense.

### American Mechanics.

*Per Slide, \$1.50: plain, 50 cents.*

- 1 Outdoor Industry.
- 2 Indoor Industry.
- 3 Reward of Industry.
- 4 Dishonesty Punished.
- 5 Temperate Home.
- 6 Intemperate Home.
- 7 The Drunkard an Outcast.

### Temple of Honor.

*Per Slide, \$1.50: plain, 50 cents.*

- 1 Five-pointed Star.
- 2 Six-pointed Star.
- 3 Triangle and Six-pointed Star.
- 4 Temple of Honor.
- 5 Rainbow.
- 6 Open Grave.
- 7 Closed Grave.
- 8 Flash of Lightning.

### Grand Army of the Republic.

*Per Slide, \$1.50: plain, 50 cents.*

- 1 Artillery Duel.
- 2 Naval Battle.
- 3 Soldier on Guard in Snow-storm.
- 4 G. A. R. Member and Citizen Clasp Hands.
- 5 Lone Sentinel on a Rock.
- 6 Muster in of a Recruit into G. A. R.
- 7 One-armed Soldier and One-legged Sailor.
- 8 Cemetery on Decoration Day.
- 9 Widow and Orphan Soliciting Charity.
- 10 Hospital.
- 11 Battlefield after the Battle.
- 12 Height of the Battle.
- 13 Eagle on Shield (Loyalty).
- 14 Bombardment of Fort Sumter.
- 15 Battle Scene.
- 16 Rallying Round the Flag.
- 17 American Flag.
- 18 Surrender of Lee.
- 19 Shooting a Traitor.
- 20 Grand Army Badge.

### American Protestant Association.

*Set of 14 Slides at \$1.50 each.  
Per Slide, plain, 50 cents.*

Slides are also made for *The True Temple, Knights of Pythias*, and various other Orders.

# CRAYON CARICATURES.

**A New and Capital Series of the Most Comical Lantern Slides Ever Made. Exhibitors Will Find Them Always Popular.**

*Per Slide, 50 cents.*

- 1 A Capital Joke.
- 2 A Good Story.
- 3 A Coolness Between Friends.
- 4 A Division of Labor.
- 5 A Ghost Adventure—A Moonlight Reverie.
- 6 A Ghost Adventure—A Ghostly Problem.
- 7 A Ghost Adventure—The Problem Solved.
- 8 A Lovely Calm.
- 9 A Black Squall.
- 10 Allopathy Tried on Johnny.
- 11 Hydropathy Tested.
- 12 Homeopathy Proved.
- 13 Angel Voices.
- 14 A Pleasure Party.
- 15 Attack of the Monster—Boarding-house Bedbug.
- 16 Attack of the Monster—The Wicked Flea.
- 17 Attack on the Watermelon—"Dey Say I Can't."
- 18 Attack on the Watermelon—"But I've Gone Done It."
- 19 Babies in Our Block.
- 20 Bear Chance (Bear and Bather).
- 21 Between Two Fires.
- 22 Boss of the Road.
- 23 Bull-dozed.
- 24 "Come Into the Garden, Maud."
- 25 "Coming Thro' the Rye" (Scotch Scene).
- 26 "Coming Thro' the Rye" (Whisky Vault.)
- 27 Darktown Fire Brigade—To the Rescue.
- 28 Darktown Fire Brigade—Saved!
- 29 Dot Leedle German Band
- 30 "Don't You Forget It!"
- 31 "Every Dog Has His Day."
- 32 "Excuse Haste and a Bad Pen."
- 33 Gatherless.
- 34 Finding of Moses, by Titian.
- 35 Finding of Moses, by Mark Twain.
- 36 Five Degrees of Intemperance.
- 37 Game Dog.
- 38 "Go Way From Down Dar!" (Negro on ladder.)
- 39 "Dar, I Knew Mischief Was a Breedin'" (Falls off.)
- 40 Going! Going! Gone!
- 41 "Golly, no Wonder Missus don't get up till 10 o'clock."
- 42 Grah the Ball, Johnny, I'll Wait Here.
- 43 Great Expectations.
- 44 How Jones Became a Mason—Starting for the Lodge.
- 45 How Jones Became a Mason—Oath of Secrecy.
- 46 How Jones Became a Mason—Riding the Goat
- 47 How Jones Became a Mason—Jones is a Mason.
- 48 Ignorance is Bliss—Barker, "Your Husband went into the Y. M. C. A. a few minutes ago."
- 49 Injured Innocence—"I haint seen nuffin uv your chickens."
- 50 "In Happy Moments" (Drunk).
- 51 "Star of the Evening, Gently Guide Me." (Policeman).
- 52 "I want to be an Angel."
- 53 "I Wonder if 'tis Loaded"
- 54 It was Loaded.
- 55 Jack and Me. (Boy and Dog.)
- 56 Me and Jack.
- 57 Joy! He sees his Angelina turning the Corner
- 58 Horror! Angelina sees Him turning the Corner
- 59 Laying Back, Stiff for a Brush.
- 60 Hung Up, with the Starch Out.
- 61 Life in Death. (Human Skull.)
- 62 "Listen to the Mocking Bird."
- 63 Little Peach—Expectation\*
- 64 Little Peach—Realization\*
- 65 Little Peach—Termination\*
- \*Comic Poem, "The Little Peach," accompanies each set.
- 66 Man as he expects to be.
- 67 Triumph of Woman's Rights.
- 68 Mau in the Moon—Actual photograph of the Moon.
- 69 Man in the Moon—Laughing at Twilight.
- 70 Man in the Moon—Yawning at Daybreak.
- 71 Man in the Moon—Negro Laughing—Eclipse.
- 72 Maternal Solicitude—Monkeys.
- 73 Mr. Murphy is Rising in the World.
- 74 Mary had a Little Lamb.
- 75 Moving Day.
- 76 "Mule Train on an Up Grade—"Golly! Where is dis yer promis land?"
- 77 "Mule Train on Down Grade"—"Clar de track for we's a comin'!"
- 78 Outward Bound. The Quay at Dublin.
- 79 Homeward Bound. The Dock at New York
- 80 Parson's Colt Trots if it is sauday.
- 81 Peace.
- 82 War.
- 83 Pet of the Ladies—The Exquisite.
- 84 Pet of the Fancy—The Prize Fighter.
- 85 Pleasure before Business.
- 86 Profit and Loss.
- 87 Put My Little Shoes Away.
- 88 Richard is Himself Again
- 89 Schoolboy's First Cigar—Very Manly
- 90 Schoolboy's First Cigar—Very Sick.
- 91 She Stoops to Conquer.
- 92 Shimplly Waitin' for a Freu'.
- 93 Something has got to Come. (Dentist).
- 94 Something did Come.
- 95 Stolen Pleasures are Sweet.
- 96 No Pleasure Without Pain.
- 97 Sure of a Bite.
- 98 Bustin' a Plenic.
- 99 The Bride, and One Year After.
- 100 The Chinese Question—The Rivals.
- 101 The Chinese Question—The Controversy Settled.
- 102 The Girl I Left Behind Me.
- 103 That Husband of Mine at 2 A. M.
- 104 The Masher.
- 105 The Masher Crushed.
- 106 The Onconvanlance of Single Life.
- 107 The Rael Convanlance of Married Life.
- 108 The Pre-historic Fop, according to Darwin.
- 109 The Modern Fop, according to the 15th Amendment.
- 110 The Summit of Happiness.
- 111 The Depth of Despair.
- 112 The Three (Scape) Graces
- 113 The Three (African) Graces.
- 114 They All Do It.
- 115 "Thou art so near and yet so far."
- 116 Three Systems of Medicine.
- 117 Trouble in de Church—"Wipe off yer chin!"
- 118 Trouble in de Church—"Pull down your Vest!"
- 119 Too Late for the Train.
- 120 'Twas a Calm Still Night.
- 121 'Twere Vain to Tell Thee All I Feel.
- 122 Two Heads are Better Than One.
- 123 Venus Rising from the Sea.
- 124 Victor and Vanquished.
- 125 Victory Doubtful.
- 126 Walked Home on His Ear.

- 127 War Dance—Opening of the Ball.
- 128 We Met by Chance.
- 129 We've Had a Healthy Time.
- 130 "What are the Wild Waves Saying, Sister?"
- 131 Scoot, Brother Scoot.
- 132 What is Home Without a Mother-in-law?
- 133 Where, O Where, has my Leedle Dog Gone?
- 134 Why did you Sup on Pork?—Nightmare.
- 135 Will You Love Me Then as Now?
- 136 Two Souls with but a Single Thought.
- 137 Poor Tommy, No. 1.
- 138 Poor Tommy, No. 2.
- 139 Poor Tommy, No. 3.

### Colored Photographic Comic Slipping Slides.

\$1 each.

- 1 She never told her Love.
- 2 Backing out of going to Market.
- 3 Lunar Caustic.
- 4 Oh! my Prophetic soul, my Uncle!
- 5 A Bill Sticker.
- 6 For China direct.
- 7 Spring and Fall.
- 8 A Garden Roller.
- 9 All's Well that ends Well.
- 10 A go-as-you-please Race.
- 11 Oh listen unto my Tale of Woe!
- 12 Kew Bridge.
- 13 Your Money or your Life.
- 14 How Happy could I be with Either!
- 15 A piece of Fancy Work.
- 16 An Unnecessary Remedy.
- 17 A friend to Humanity a friend in Need.
- 18 Clearing the letter Box.
- 19 A Spoilt Child.
- 20 Saying good-bye to the Old Year.
- 21 The Complete Angler
- 22 A Stitch in Time.
- 23 "I come to bury Caesar."
- 24 Elbow grease.
- 25 A Tailor.
- 26 Skipping Girl.
- 27 Rabbit Pie.
- 28 Boy and Donkey.
- 29 Boy stealing Sugar.
- 30 You must Move on—Assault and Battery.
- 31 The Dragon takes a Walk.
- 32 Dancing Imp, or Will o' the Wisp, changes color.
- 33 Acrobat performing with Chairs.
- 34 Turk throws off his Head.
- 35 Female Circus Rider.
- 36 Ballet Dancer.
- 37 Dancing Negro.
- 38 When shall we Three meet Again.
- 39 Boy spinning Top.
- 40 Good-night.
- 41 Man driving Pig.
- 42 Clown hanging.
- 43 Silence.
- 44 Girl playing Battledore and Shuttlecock.
- 45 Child chasing Butterfly.
- 46 Scotchman taking Snuff.
- 47 Man beating his Donkey.
- 48 Child kissing its Father.
- 49 Irishman driving Pig.
- 50 Boy falling off Pig.
- 51 Skeleton falls to Pieces.
- 52 Man asleep swallowing Mice.
- 53 Organ grinder and jumping Monkey.
- 54 Cat playing with Mouse.
- 55 Man having a Tooth drawn.
- 56 Cricketer struck in the face with Ball.
- 57 Lady catching Butterflies catches Man in Net.
- 58 Punch jumps out of Bowl.
- 59 Old Tom Cat appears on Cask.
- 60 Oriental drummer.
- 61 Man's tongue grows longer.
- 62 Punch strikes Policeman.
- 63 Cat jumps on the back of Man Shaving.
- 64 Performing Elephants.
- 65 Frogs jump out of a Pie.
- 66 Pantaloon with cracker attached, Dancing.
- 67 Acrobat turns a somersault on Chairs.
- 68 Acrobat performs with Globes.
- 69 Monkey dipping Cat in water Tub.
- 70 Performing juggler.
- 71 Duel between Sailor and Pilot.
- 72 Sailor daucing a Horn-pipe.
- 73 Blacksmith at Work.
- 74 Boy chasing Butterfly tumbles in Water.
- 75 Peacock spreads his Tail.
- 76 Butcher and Goose—flies at his nose.
- 77 Clown makes Dog jump through hoop.
- 78 Cow tossing Dog.
- 79 Punch's nose grows out—Dog appears on end of it.
- 80 Sailor fishing—is seized by Alligator.
- 81 Boys bring off Cannon.
- 82 Lady dancing on tight rope.
- 83 The family Umbrella.
- 84 Monkey takes old Woman's cap off.
- 85 Wizard raises Demon.
- 86 Chinese juggler.
- 87 Sailor dances and waves Banners on Horesback.
- 88 Lady on kicking Mule.
- 89 Dog catches Monkey by tail—tail comes off.
- 90 Elephant and Keeper.
- 91 Photographer appears through Camera to arrange his sitter.
- 92 Donkey tumbles over precipice—leaves Man behind.
- 93 Three soldiers have their Heads shot off.
- 94 Beggar takes his Hat off.
- 95 Page taking jam—Cook appears behind.
- 96\* Monkey holding Mouse to cat on pillar.
- 97 Boy teasing Dog—Dog seizes him from behind.
- 98 A pear—a pair.
- 99 Boy standing on two Stools, falls down.
- 100 The end of the (tail) tale.

### Comic Slips.

Per Slide, \$1.

- 101 Indian and Missionary.
- 102 Domestic Broil.
- 103 Opening Rose and Cupid.
- 104 Sambo in Doctor's Office.
- 105 The Power of Music.
- 106 Negro Uprising in South.
- 107 Fine Opening for Young Man.
- 108 Good Night—Stern Parent and Lovers.
- 109 Spring and Fall.
- 110 A Go-as-you-please Race.
- 111 The Complete Angler.
- 112 Woman Slapping Child.
- 113 Tailor Repairing Coat.
- 114 Girl Skipping Rope.
- 115 Boy Riding Donkey.
- 116 Boy Stealing Sugar.
- 117 Negro Dancing.
- 118 Driving Pig to Market.
- 119 Man Beating Donkey.
- 120 Paddy and the Pig.
- 121 Boy Riding a Pig.
- 122 Human Skeleton.
- 123 Dentist Pulling Tooth.
- 124 Lady Catches Man in Net.
- 125 Baby Elephant Dancing.
- 126 Acrobat on Chairs.
- 127 Acrobat Tossing Globe.
- 128 Monkey Dipping Cat in Water.
- 129 Acrobat Tossing Balls.
- 130 Sword Combat.
- 131 Village Blacksmith.
- 132 Butcher and Goose.
- 133 Dog Jumps Through Ring.
- 134 Cow Tossing Dog.
- 135 Punch and His Dog Toby.
- 136 Sailor Attacked by Alligator.
- 137 Fourth of July Morning.
- 138 Lady on Tight Rope.
- 139 Old Woman and Pet Monkey.
- 140 Lady and Kicking Mule.
- 141 Dog Pulls off Monkey's Tail.
- 142 The Separation—Man and Donkey.
- 143 Heads Off Soldiers Obey.
- 144 Organ Grinder and Monkey.
- 145 Wizard and Goblin.
- 146 Lady Circus Rider.
- 147 Family Umbrella.
- 148 Human Rat Trap.

### Comic Irish Scenes.

Per Slide, Main 50 cents.

- Paddy and his Pig.  
Bothering a Tourist in Dublin.  
a Going to the Beds.  
b Coming from the Beds (The Spill.)  
Tipperary Boy going a Court-ing.



Donnybrook Fair in the ra'al  
ould times.  
a Hauling off the Bride.  
b Hauling home the Bride.  
c The Rael Convaynience of  
Single Life. (New.)

b The Onconvaynience of  
Married Life. (New.)  
Rent Day and Spirits scarce.  
Kissing the Blarney Stone.  
Goin' to Kiss the rael Blarney  
Stone.

"Who dare stand on the tail  
uv me coat?"  
a Dressing for the Courting.  
b The Courting.  
Larry desaving his baste.  
"Will you have Tea or  
Whisky?"

### NATURAL CLOUDS.

50 Cents each.

From our own negatives we are able to supply slides of natural clouds, giving the following effects:

- |                  |                  |
|------------------|------------------|
| 1 Sunrise.       | 4 Broken Sky.    |
| 2 Sunset.        | 5 Flecked Sky.   |
| 3 Breaking away. | 6 Thunder Storm. |

The above are also made colored and wood-mounted. Three-inch circle, \$1.50 each. They are exceedingly beautiful.

### SNOW AND ICE VIEWS

50 Cents each.

A very beautiful variety of these for dissolving and single effects, very fine.

- |                            |                 |
|----------------------------|-----------------|
| Alps.                      | Plato's Statue. |
| Niagara in Winter.         | Ice Columns.    |
| Minnebaha Falls in Winter. | Ice Cavern.     |
| Mt. Washington in Winter.  | Crystal Forest. |
| Virgin's Pass.             |                 |

### A PIC TAIL COMEDY AND A PIC TAIL TRAGEDY.

A Set of 12 Comic Slides at 50 cents per slide.

### PITON'S FOREIGN COMIQUES.

50 Cents each.

All travelers abroad meet many curious experiences and funny people, and, looking through the most comical spectacles, Professor Piton has sketched for us some such dreadfully funny scenes and things. The list is being constantly added to. Among those now ready are the following, which serve splendidly for extras in Wilson's *Lantern Journeys*. A good laugh always comes welcome to an American audience, and these will give an exhibitor the power to bring it about at will. Good effects are obtained with the double lantern by dissolving these with or from natural clouds.

- |   |                                   |
|---|-----------------------------------|
| 1 Phosphorescent Phizzes.                       | 8 Humanity in Vienna.             |
| 2 A Foreign Palace Car at Night.                | 9 Asleen in Germany—A Real Trial. |
| 3 Crossing the Channel and All's Well—<br>Sick. | 10 You Kilt Runt Offer.           |
| 4 A Neapolitan Street Scene.                    | 11 The Journey Across.            |
| 5 A Struggle on Mt. Vesuvius.                   | 12 Adieu.                         |
| 6 A Day's Find at Pompeii.                      | 13 Good-night.                    |
| 7 Relics of our Roman Relations.                | 14 How Do You Do?                 |

### COLORED SLIDES OF EGYPT.

We have heretofore alluded briefly to our beautiful sets of Egyptian subjects, but we are now prepared to furnish without delay these charming bits of Nile scenery for use in connection with other Egyptian views, or as *effect sets* for the close of an entertainment. The subjects are as follows:

- |                            |                                 |
|----------------------------|---------------------------------|
| The Nile Boat (A).         | The Ruins at Philae, No 1 (A).  |
| The Nile Boat (B).         | The Ruins at Philae, No. 1 (B). |
| The Nile Boat (C).         | The Ruins at Philae, No. 1 (C). |
| The Ruins at Kardassy (A). | The Ruins at Philae, No. 2 (A). |
| The Ruins at Kardassy (B). | The Ruins at Philae, No. 2 (B). |
| The Ruins at Kardassy (C). | The Ruins at Philae, No. 2 (C). |

Each set consists of three wood-mounted slides, with three inch opening. The first one (A) is a plain, uncolored slide, with the usual bright sunlight; the second (B) is a beautifully colored view, with rich, but delicately tinted sunset-glow; while the third (C) is the most charming moonlight effect. The three views of each set being printed from one negative (and that photographed from nature), are perfectly registered, so as to dissolve exactly each into the other, the effect is truly wonderful.

The price for each set of three is \$4.00, or sold singly, if desired, at \$1.00 for the plain view (A), or \$1.50 each for the colored views (B or C).

They will be furnished to order, when so desired, in two other forms, viz.: three and a half inch circular opening, \$4.75 per set; or three-inch square opening, at \$5.25.

**BEAUTIFUL COMPANION PIECES.**

**NIGHT.**—A beautiful female figure, clad in flowing white robes, clinging to the moon. Stars dotting the sky.

**MORNING.**—Another artistic gem is a beautifully draped female figure floating in the rays of the rising sun.

Both of these are exquisite and refined pieces, and can be appropriately used before any audience. Three inches, square, \$2.00.

**A CHRISTMAS HYMN**

[With Poem.]

- 1 "Had Rome been growing up to might, and now was queen of land and sea."
- 2 "The Senator of haughty Rome impatient urged his chariot's flight."
- 3 "Within that province far away went plodding home a weary boor."
- 4 "How calm a moment may precede one that shall thrill the world forever."
- 5 "A thousand bells ring out, and throw their joyful peals abroad."
- 6 "For in that stable lay, new born, the peaceful Prince of earth and heaven."

**HOME, SWEET HOME.**

[With Poem.]

- |  |  |
|--|--|
| <ol style="list-style-type: none"> <li>1 "Be it ever so humble,<br/>There's no place like home."</li> <li>2 "An exile from home,<br/>Splendor dazzles in vain."</li> </ol> | <ol style="list-style-type: none"> <li>3 "How sweet 'tis to sit<br/>'Neath a fond father's smile."</li> <li>4 "To thee I'll return<br/>Overburdened with care."</li> </ol> |
|--|--|

The ballad of "Home, Sweet Home," was written by our countryman, John Howard Paine, in the early part of this century, and these illustrations are designed to give some idea of the style of dress, etc., of the period.

**SELECTED PAINTED COMIC SLIP SLIDES.**

65 cents each.

A large assortment of these grotesque pictures always on hand and always changing. The newest and latest selections will be made for our patrons.

**BEAUTIFULLY COLORED PHOTOGRAPHS**

OF FINE ENGRAVINGS FOR DISSOLVING AND SINGLE LANTERNS.

- |  |   |
|--|---|
| <ol style="list-style-type: none"> <li>1 Dore's Illustrations of the Bible, 230 slides in each set.</li> <li>2 Dore's Illustrations of Milton's Paradise Lost, 50 slides in each set.</li> </ol> | <ol style="list-style-type: none"> <li>3 Dore's Illustrations of Dante's Inferno, 76 slides in each set.</li> <li>4 Dore's "Ancient Mariner," 39 slides in each set.</li> </ol> |
|--|---|

**ABIDE WITH ME.**

We have arranged and perfected a beautiful set of slides to illustrate the favorite hymn, "Abide with Me," by Henry Francis Lyte.

Those who have seen the effect produced upon an audience by the judicious use of music in connection with certain slides, at the closing of an entertainment, will readily appreciate what the set now offered must be.

Even the old and well-known set, "Rock of Ages," although consisting of but four slides, when rightly handled by an expert operator with an accompaniment on the organ, or the hymn given by a quartette of voices, will produce a better effect than any number of pieces of this nature without the music, as there is so little a lecturer can say that will equal the charm lent to it by appropriate music.

This set, as arranged, consists of twenty-five beautiful colored slides, and we have no hesitation in saying that it is the finest combination of pictures of this class ever offered to the public. Those who have seen the pictures projected while the song was being sung, say they had always admired the words, but never knew before what a deep meaning there was in every line. No hymn or poem was ever written that is so well adapted to illustration, and no illustrations were ever made that so appropriately set forth the spirit of the words.

It has been suggested that a smaller number of illustrations would insure a larger sale of the set, as many would be deterred from purchasing twenty-five slides where they might be induced to purchase ten or twelve. We have taken all this into account, but still prefer to offer the set in its complete form, thinking that those who do purchase will agree with us that its beauty lies in the appropriateness and the fullness of its illustration. The set of twenty-five views is sold at \$7.50.

We give below the hymn entire, with a brief description of the views and effects:

- 1-2 Abide with me! fast falls the even-  
tide;  
The darkness deepens; Lord, with me  
abide!

These two lines are illustrated by two views, the first representing a lighthouse on

the end of a pier, with nothing visible beyond but the sea, and the whole showing that night approaches. The second view is the same, but at night, with a beautiful effect upon the water, the light shining from the lighthouse, and appropriately illustrates the line, "The darkness deepens."

3. When other helpers fail, and comforts flee,  
Help of the helpless, oh! abide with me.

This idea is most beautifully illustrated by a houseless and homeless wanderer, crouching upon the steps of a brilliantly lighted mansion, gazing in through the windows at the comforts so sadly needed and for which she must look to the "Help of the Helpless."

4. Swift to its close ebbs out life's little day;  
Earth's joys grow dim; its glories pass away;

An old church in ruins, in the midst of toppling gravestones, well illustrates how "its glories pass away."

5. Change and decay in all around I see:  
O Thou, who changest not, abide with me!

A beautiful moonlight view of a ruined abbey, with its ivy-clad gable, the moon shining through its "Catharine Wheel" window, and well expressing "change and decay."

6. Not a brief glance, I beg, a passing word;  
But, as Thou dwell'st with Thy disciples, Lord,

Our Lord, with his disciples, partaking of the last supper.

7. Familiar, condescending, patient, free,  
Come, not to sojourn, but abide with me!

The Saviour, "familiar, condescending, patient, free," surrounded by the "little children," whom he loved so well.

8. Come not in terrors, as the King of kings;  
But kind and good, with healing in Thy wings:

A scene in which the "kind and good" phase of our Saviour's character is typified at the bedside of the sick and dying.

9. Tears for all woes, a heart for every plea;  
Come, Friend of sinners, and thus abide with me!

The "Friend of sinners," standing over the crouching, penitent figure, and saying, "He that is without sin among you, let him first cast a stone at her."

10. Thou on my head in early youth didst smile;  
And, though rebellious and perverse meanwhile,

A beautiful child watched over by two elder sisters—a perfect gem of a picture.

- 11-12. Thou hast not left me, oft as I left Thee.

On to the close, O Lord! abide with me. Angel faces appearing as in readiness to crown with glory one who is near "the close."

13. I need Thy presence every passing hour;  
What but Thy grace can foil the tempter's power?

A portion only—the central group—of Dufay's celebrated picture of the "Prodigal

Son" is here utilized, showing the youth surrounded by the "tempter's power." By taking only the principal group of this picture, the interest is centered on the one figure. The other portions of the allegory do not divert the attention.

14. Who, like Thyself, my guide and stay can be?  
Through cloud and sunshine, oh! abide with me.

An attic room; the figure of a woman, weary with work; the meagre furnishing of the room, and the unmistakable surroundings of one who sees more of "cloud" than "sunshine," illustrates this number.

15. I fear no foe, with Thee at hand to bless;  
Ills have no weight and tears no bitterness;

Another beautiful picture is here introduced, showing a widow at the grave of her departed husband; but her look of resignation and the wreath of flowers she has brought, with which to deck the tomb, show that, although there may have been tears, they have lost their bitterness.

16. Where is Death's sting? Where, Grave, thy victory?  
I triumph still, if Thou abide with me!

Death is depicted. The arena is filled with the dead and the dying, sacrificed to furnish a day's diversion for an emperor. But when we know that they were slaughtered for daring to proclaim their belief in the Saviour, and as we see the angels hovering over the martyrs thus sacrificed, we may well exclaim, "Where is Death's sting? Where, Grave, thy victory?"

- 17-18. Hold, then, Thy cross before my closing eyes!  
Shine through the gloom, and point me to the skies!

Faith, looking forward, sees the cross rise before her, pointing to the skies.

- 19 to 25. Heaven's morning breaks, and earth's vain shadows flee;  
In life and death, O Lord! abide with me.

The numbers from 19 to 25 all combine to make the closing scene of this series one of the most brilliant in effect of anything attempted in the line of lantern transformations. The last view previous to this fades gradually away into a rosy-tinted cloud, from which two angels emerge, bearing in their arms a female figure representing a departed soul. These figures are quite large and low down on the disk, and seem quite near. Gradually the figures disappear. An entirely different but more gorgeous cloud covers the screen, and presently the same figures emerge again, smaller and higher up, apparently further away, and in their turn disappear into a third cloud, as brilliant as the last, but different from either of the preceding; when, at length, on the upper portion of the disk, and flying in the opposite direction, reduced in size, as though a long way off, appear the angels with their burden, only to melt away gradually, and almost imperceptibly, disappearing into a cloud of the brightest ruby tints, as we picture to ourselves that "Heaven's morning breaks, and earth's vain shadows flee."

## THE FLIGHT OF A SOUL.

The last seven numbers of the above set, from nineteen to twenty-five inclusive, form a set by themselves, called "The Flight of a Soul," and as it is the most brilliant and gorgeous portion of the larger series, it makes a set of the utmost brilliancy in itself. Customers who do not care to purchase the entire series of twenty-five can obtain the seven slides for \$10.50.

## THE JOURNEY OF AURORA.

AN ENCHANTING MYSTERY.

1. Morning Moonlight View, colored, of the old moon going off from the right, and then from the view appears
2. Aurora, Goddess of Day.—Large. The moonlight view disappears, and Aurora stands out bright and vivid, and next comes
3. The Red Tint.—It must be manipulated by the dissolver being turned to the middle, as before described, and then gradually the Aurora disappears, and the red tint is followed by
4. Clouds, which are lit up by the rose tint, and which break into
5. View of the "Creation of Light," gorgeously colored, and from this comes forth again
6. Aurora, medium size, growing smaller as she floats from us, followed by
7. Golden Tint, which is to represent the morning tint changing from rosy hue to

golden or lighter hue, and, as the whole progresses, different parts of nature are lighted up, first of which is shown by

8. Winter Scene at Niagara.—The golden tint disappears, and is followed by

9. Blue Tint, which is made to represent the full sunlight, or the clear heavens. Niagara is tinted with this, and then disappearing gradually, is followed by

10. A View of Venice.—Upon the waters of the quiet lagoon appearance is made again of

11. Aurora (small), lighting up a great city. Thus it will be seen she has made her journey, and gradually lighted up the world, and now she disappears into the

12. Clouds.

Eight wood-mounted and four plain slides, \$11.00.

Unframed colored and plain slides, \$7.50

## THE BIRTH OF THE WATER BABIES.

LOVELY AND LAUGHABLE.

1. Colored View of the Sea, from which emerge
2. Water Babies, small.—We are charmed with their loveliness but a moment, when they are lost in
3. A Noisy Waterfall, which is followed by
4. Red Tint.—We have a fruitless search for our babies through the turbulent waters and through the red tint, but not finding them here, we come to
5. An Ice Cavern (where we must search to find our treasures), which follow with
6. Water Babies, medium size. We find that they have grown larger during their absence, and have but time to appreciate their improvement when they are lost again in
7. Blue Tint.—Work this blue tint by using

the dissolver in the middle, thus giving background to the babies, and then vanish the babies into the blue from which bring forth

8. Minnehaha Falls in Winter, where we search again for our little fugitives, and from which are made to emerge

9. Water Babies, now grown larger still. These are tinted, as before, by

10. Golden Tint, into which they gradually fade, and are lost in

11. A Forest of Ice, which may be tinted with the golden tint, and thus brought out brightly by the full flow of light upon them.

Seven wood-mounted and four plain slides \$9.50.

Unframed colored and plain slides, \$6.00

## FLYING TIME.

BEWILDERING TRANSFORMATIONS.

1. Rose Tint, from which, in the same manner as the others, is brought
2. Flying Time, large.—The old fellow drags his victim along into
3. A Mountain Pass in Switzerland.—Here the twain are lost for a moment, and, passing on through the Alps, we come to
4. The Glorious Glacier.—In a moment we see our figures coming down the glacier for then is made by the divided light, as described, to appear
5. Flying Time, with his victim, smaller. Gradually he is taking the woman on her journey of life, and after bringing her down the glacier they disappear from sight again, and are lost in
6. Colored View of Castle and Mountain and Waterfall.—By turning the dissolver slowly to the middle, we can have both 5 and 6 upon the screen at once, making the statue appear to travel over the valley, and thus

represent the journey of life over the beautiful places of earth, too rapidly for the unwilling woman; and then, slowly, 5 is made to disappear, and 6 is brought into full view to be followed by

7. An Alpine Gorge, whence our figures are supposed to have disappeared, and which is gradually shut in by

8. Blue Tint, from which

9. A Mountain Summit cloud view comes, and on which we see gradually appear

10. Flying Time, the smallest representing the journey of the victim toward the heavens, pushed on reluctantly by our great master, Time, until they both are lost in

11. Clouds, which are followed by

12. Golden Tint.

Seven wood-mounted and five plain slides, \$10.00.

Unframed colored and plain slides, \$6.50.

## THE WORLD.

A SUNDAY-SCHOOL EXHIBITION.

1. Red Tint, from which comes forth
2. The World.—A statue of an infant standing upon a globe, with hands and face lifted heavenward, which disappears in
3. Low Clouds above the housetops, which are tinted by
4. Blue Tint.
5. Clouded and Broken Sky, in which is seen floating
6. The World.—The infant having left the earth, and rising heavenward, is again seen surrounded by
7. Golden Tint, representing Jerusalem the Golden, from which emerges

8. A Mountain Peak, over and above which appears, still smaller and further away,

9. The World.—The tiny infant still smaller and rising heavenward, until met by

10. An Angel, in whose arms the infant is nestled, and carried away to the world above. The latter slide is colored.

11. Clouds.

Seven wood-mounted and four plain slides, \$10.00.

Unframed colored and plain slides, \$6.50.

These effects, it will be readily seen, can be modified to an almost unlimited extent by the dexterous choice and use of clouds, ice, and other views which are appropriate, guided by the invention of the exhibitor. The statuary is of our own best grade.

Any person having a large collection of views can modify them thus, and produce wondrously beautiful things. Great advantages are obtained by the skillful manipulation of the dissolving key, and these new things are arranged so as to permit of that. It is known that when the dissolver is turned to the extreme right that but one picture will be shown, and when it is turned to the extreme left, only the other picture will be shown; but if it is turned so that its handle will be in the middle, the light is divided between the two lanterns, and very pretty transformations thus obtained.

One can soon learn how to arrange this, by just a little experiment, and thus secure an unlimited amount of pretty things which are always applauded by the audience.

## SECOND SERIES—LARGELY IMPROVED AND CHANGED.

The following new series are arranged similarly to those described above, and are greatly improved, inasmuch as the whole of any one set are either wood-mounted, or else are without wood, so that no change of holder is needed to work them.

Moreover, the statuary figures are made of a size to register with the preceding or succeeding view, so that they will dissolve with astonishing effect. The quality, too, is unexcelled.

The colored subjects are most brilliantly painted, the effects are most startling, the sudden changes surprising, and the combinations most attractive. We have spared no pains or expense upon their production, the fine patronage given our other sets assuring us that such scenic transformations are acceptable to buyers, and entertain their audiences, for their sale is unprecedented.

We commend them to the attention of all. They will pay the first night they are shown, by filling your house the second night.

## HEBE'S REVENGE UPON CUPID—A NEW MYTHOLOGY.

A MOST BEAUTIFUL, STARTLING, AND LAUGHABLE COMBINATION. SURE TO TAKE.

1. Statuary Group.—Hebe, the goddess of youth, desiring to perform her toilet, commands Cupid to hold her mirror for her. Indignant at being pressed into such menial service, Cupid causes the image of a monster to appear in the glass. The enraged Hebe views it calmly, but swears vengeance; and they both disappear into

2. The Blue-tinted Clouds, by no means good friends, though seemingly at peace.

3. The Home of Hebe.—We now see the lovely but angered goddess amid the beauties of the Garden of the Gods, from whose flowers she gathers the beautiful tints with which she paints the feathers of her mother Juno's peacocks, which are committed to the care of our sweet heroine.

4. Statue of Hebe.—Meditating how she shall punish the impudence of Cupid. At first, she resolves to entrap him with a garland of flowers, but abandons that project, and determines to consult her father, Jupiter, on the subject. She prays to him to come to her aid.

5. Cupid's Counsel with his Fellows.—Having in vain sought Hebe for a loving *make-up*, and satisfied that there is mischief in the air, the troubled little urchin proceeds to the rendezvous for a council with

his chums. To avoid detection they cause themselves to be transformed into gnomes. They resolve to frighten Hebe to death, and dig for some horrid moustrosity to assist them, two of them, as vampires, being posted in the air to guard against intruders.

6. A Cloud of Fire shields them from the searching eyes of the enemy, on the further side of which we may see, if we are on the alert.

7. Hebe Consulting with Jupiter (Statuary).—The father of the gods appears to her in the form of an eagle. She refreshes him with food and drink, and, meanwhile, relates her woes. He, promising a father's protection, seizes her lunch-baskets, and swears that he will capture the whole army of cupids, and bring them to her feet, not to be destroyed—oh, never!—but to be punished with mercy.

8. A Golden Veil approaches, into which they both disappear—Hebe, delighted, to ask the assistance of her companions on the grand occasion of vengeance satiated, as promised by Jupiter, he to make his captives.

9. Hebe's Revenge (Grand Statuary Group).—The cupids are brought in baskets by the gods, given a thorough bath by the god-

desses and then hung upon lines of fire suspended in the air, for thorough desiccation. Hebe marries Hercules, and we now see poor

10. Cupid a Beggar (Statuary).—Here we

Ten colored wood-mounted slides, plain and colored, \$11.50.  
Unframed colored and plain slides, \$7.00.

see our spunky little friend reduced to penury. Under such trial, our sympathies go out toward him, despite the just vengeance of the petulant Hebe.

## THE GIRL AND THE BUTTERFLY—A FAIRY TALE.

SPECIALLY FOR OLD AND YOUNG—GIRLS. LOVELY STATUARY AND COLORED VIEWS.

1. Statuary—Little Sunshine.—The pet of the household, sauntering out into the garden, discovers a butterfly, which she attempts to capture. It escapes her, and as it does so, a new desire to be free seizes her, and she sings:

I'd be a butterfly; living a rover,  
Dying when fair things are fading away.

2. The Summer Clouds hide the gaudy insect from her sight, and she makes again

3. An Attempt to Capture (statuary with colored butterfly), and is led by her ardent desires to follow it over hill and dale until, nigh approaching, she comes to

4. A Roaring Torrent in a Rocky Gorge, where the fickle insect escapes her, and is soon out of sight. In despair she sits down to collect her thoughts. She determines to continue the pursuit, and to have success. Before lying down for the night she asks the fairies, who appear to her in the form of great, wise-looking owls, that she may become a butterfly herself in order to succeed. The morning sun awakens her, and she finds herself on the other side of the gorge, in the very

5. Home of the Butterfly, amid the most gorgeous flowers and the sweetest perfume, with the gaudy objects of her pursuit fluttering about her on all sides. She is enchanted, and a strange feeling comes over her. Can she fly? She must first have wings. She resolves to steal them from a splendid

fellow who now tantalizes her, and a hundredth time attempts to seize him, but alas! how many efforts in this mortal world are like those of children playing

6. Blindman's Buff.—They make many a fruitless effort, and, like them, she is again doomed to disappointment. The beauty and the freedom which she thought she now possessed, were only the grim shadows of hope traced upon the clouds of the distant future. Too gigantic to be real, and too singular to be true, her hopes vanish.

7. The Blue Sky, now above her, typical of truth, still gives her renewed desire, and she feels a still stranger spell coming over her. Her feet seem to be entangled, and there is a pleasurable flutter about her shoulders which fills her with renewed ecstasy. Her wishes are being granted, and behold! we look upon

8. The Girl as a Butterfly (Statuary).—As yet she is only partly fledged. Her body is scarce possessed of all its new functions, and the golden feathers are yet needed by her beautiful wings. To obtain them she must make a journey into

9. The Golden Sea, when she reappears fully accoutred and

10. A Perfect Butterfly! with all the gorgeous coloring possible, and freedom to go at will, unless her lovely companion and her children restrain her.

Six colored wood-mounted and four plain slides, \$9.25.  
Unframed colored and plain slides, \$6.50.

## THE SEVEN STAGES OF MODERN GIRLHOOD.

VERY FUNNY CHANGES AND BEAUTIFUL STATUARY.

1. (1st stage.) Statuary Group.—We first find our little heroine in the very earliest stages of her existence, peacefully nestled in her mother's arms. The mother now proceeds to bathe her babe in the health-giving waters of the

2. Cascade.—Into this beautiful waterfall they entirely disappear amid the clouds of white spray.

3. (2d stage) Statuary.—The little one comes back to us in the second stage, and we see her just toddling about in her uncertain baby way, pulling blossoms, herself the sweetest flower of them all.

4. Bouquet.—She now vanishes from sight, for she is transformed with her poses into a beautiful bouquet.

5. (3d stage) Statuary.—Again she appears to us a little older, and the first dawn of the mother instinct is shown by the way she hugs her dolly and sings her to sleep. But she soon passes on from this stage, and we again lose sight of the little changeling amid the scenes of

6. The Beautiful World.—Into this charming place she is lost again, and her little white dress melts away like the mist on the mountain. Meanwhile, she outgrows her

taste for flowers, toys and dolls, and incipient girlish vanities begin to rule in her little brain until she becomes

7. (4th stage.) Vanity Itself (Statuary).—Here she comes, trailing her silken gown along the ground, with her little bare toes peeping from beneath the rich folds. She is sporting in borrowed plumage, and is so absorbed in gratified pride that she rushes blindly into her punishment and is lost

8. Amid the Rugged Rocks, in the solemn depths of which it is hoped she will learn wisdom from the good little fairies who live there, so that when she again comes forth we shall find her

9. (5th stage.) A Maiden Fair (Statuary), full of hope and courage, ready to take up her duties and boldly embark upon

10. The Sea of Life, fearless because ignorant of the troubles and dangers ahead. Hope is gone, and she

11. (6th stage.) Rejected (Statuary), becomes weary with the rough storms of existence and the deceitfulness of the world. Her dreams are dismal, and life a

12. Desert Scene—a long, dreary waste of cheerless desolation.

13. Rose Tint—Clouds.—But the little god

Cupid has something better in store for her. Her dreams are now all *couleur de rose*, and we find her employing

14. (7th stage.) Love's Messenger.—Her face is wreathed in happy smiles, as she dispatches her carrier-dove to bear a letter to

her true love. It is now safe to leave her in the hands which girlhood hopes for; so we bid farewell to her as she departs amid

15. The Solemn Cathedral Aisles, where at the altar she will ratify her vows; and leave behind the happy days of girlhood.

Fifteen colored wood-mounted and plain slides, \$13.50.  
Unframed colored and plain slides, \$11.50.

## THE SEVEN PERIODS OF YOUNG AMERICA.

ALL VERY FUNNY PERIODS WITH A STOP.

1. Icicles.—Mother Goose (one of the most reliable authorities in the world) tells us that little boys are made of snaps and snails and puppy-dog's tails, so here he comes right out of the midst of these *icicles*!

2. This is the infantile period (Statuary), where most of the time is spent in his patient *mother's arms*. He looks like a lively chap even now, and his baby fingers are busily examining some toy. The pleasing group vanishes into the

3. Sunny Landscape, and in a moment the boy comes forth in the second, or *exploring period*, taking his

4. First Step (Statuary) on the smooth grass, in search of curiosities. A little bird first attracts his notice, and, no doubt, typical of his future, in his eagerness to win the prize he will have many a tumble. He continues the chase, and disappears behind the

5. Guns of a Fort.—The martial surroundings excite his ambition, and he seizes a drum, and he comes before us in the *noisy period*, as a

6. Drummer Boy (Statuary).—Boy-like, he has small consideration for times or places, and with a ruh-a-dub-dub he holdly marches into this

7. Hall of Beauties.—Some new influence seems to work upon him here. Perhaps the graceful pose of a statue, the airy forms in a picture, or some strain of sweet music, has directed his active feet in an unwonted measure, and he appears in the *exquisite period*.

8. Dancing Gleelessly (statuary).—Round and round he whirls with his companion, until suddenly they are lost in the

9. Deep Snows of the wild mountain. His ardor is cooled on this unexpected transition, and when he comes forth he seems a changed creature. The *constructive period* has arrived, and he really seems bent on

10. Doing Something (Statuary).—Already he has carved quite a fair dog's head on his stick, and gives promise of becoming an artist. He soon wearies of this.

11. The Wide World lies before him, and he will seek his fortune in some *great city*. The spirit of the

12. Period of Wandering (Statuary).—permeates his whole soul, and he is ready to join in any adventure. We see him with a companion, setting out on his journey. But it is a

13. Rough Road.—He finds there are mountains to climb. His courage fails; he gives up, and returns to his home. When we next see him he has reached the seventh heaven.

14. The Love-making Period (Statuary).—And now that he has sought the society of the gentler sex, we will hope for him, and leave him holding up his umbrella to keep the

15. Falls of Niagara from wetting his sweet-heart. Silence is

16. Golden, and the lovers are too absorbed in their happiness for aught else to disturb them.

Sixteen colored slides wood-mounted and plain, \$11.50.  
Unframed colored and plain slides, \$10.50.

## THIRD SERIES.

### NOTED WOMEN OF THE BIBLE.

ESPECIALLY INSTRUCTIVE FOR SUNDAY-SCHOOLS.

1. We will open this story of Bible Women by showing a Scene on the Nile. It may not be just the exact spot where the infant Moses was found, because things change in the course of 4,000 years or more, and it is difficult to always decide upon landmarks. However, Egypt is not a very large country, and the scenery is rather monotonous, so we will imagine this to be the spot where

2. Pharaoh's Daughter (Statuary) found the Hebrew babe, whom she reared in all the luxury and science of the court of Egypt. By this peculiar training he became eminently fitted for his office of deliverer of his nation. The princess now leaves us with her new-found treasure and vanishes amid a

3. Tropical Grove, for we find that in these times the energetic Egyptians planted many of their beautiful avenues with stately trees. Now, through the vista of this grove we see the form of a woman of noble proportions, but struggling in agony; it is

4. Lot's Wife (Statuary), as her limbs and

body are gradually turning to salt. She had heard the Divine declaration of this punishment on whosoever turned a glance of lingering regret upon the doomed cities, and now she too, is left to perish for her disobedience.

5. A Fair Pastoral Scene now dawns upon us, its peace and tranquil beauty directing our minds from past sorrows to future joys and we see the fair young

6. Rebekah at the Well (Statuary) as she appeared to travel-worn Jacob. No wonder the vision of the lovely damsel, and her gentle courtesy in giving him refreshing drink, quite won the heart of the young man.

7. The Clouds of hope deferred now hide her from us, as they did from her lover for many weary years of waiting, and

8. Ruth (Statuary), is found as Boaz discovered her, gleaning in the field to obtain food for herself and her beloved mother-in-law. Her labors are rewarded, not alone with a scanty sheaf, but with the love of

one of the richest noblemen of the land, so powerful was the spell of her beauty and humility. A

9. Rosy Tint, emblematic of their happiness, now hides her from our view. From this another scene of sorrow appears—

10. The Adulteress (Statuary), kneeling in

Eleven colored slides wood-mounted and plain, \$8.50  
Unframed colored and plain slides, \$6.75.

## A TOUR WITH THE GODDESSES.

FULL OF MYSTERIOUS BEAUTY.

1. Sappho (Statuary).—As our subject is of a rather poetical nature, the goddess of poetry first appears before us. She was born about 600 years before the Christian era. She was celebrated for her beauty and talent, and while still quite young, composed nine books in lyric verse. After her early death she received divine honors from the people, and temples were erected in her memory. She had fallen desperately in love with a youth called Phaon. His indifference broke her heart, and she concluded to throw herself into

2. The Sea.—Here we see her vanishing amid the turbulent waters, and again from their depths arises a beautiful group.

3. Leda and the Swan (Statuary).—The fair Leda was the wife of the King of Sparta. Jupiter became so attracted by her loveliness as to excite the jealousy of his lawful spouse, Juno, and she changed him into a swan. She could not, however, change his heart, and here we see him beside his mistress, while she tenderly caresses his graceful head. We now lose the lovers on the

4. Snowy Peaks of the heaven-reaching mountains, while slowly emerging from the caverns we descry the form of

5. Diana (Statuary), the goddess of hunting.—She was a twin sister of Apollo. She obtained permission from her father, Jupiter, to live in perpetual celibacy, and to avoid the society of men devoted herself to hunting, having a little army of nymphs as her

attendants, all of whom took vows to follow her example of single blessedness. Her most famous temple was that at Ephesus, called one of the seven wonders of the world. She is now bent on some deed of vengeance, and we lose sight of her in this

11. Blessed Book, from whence we have drawn our simple narrative of these few female characters.

6. Cascade.—She hurries on her errand, and through the mist of the waterfall we catch sight of her victim

7. Niobe (Statuary), who by her ambition has incurred the anger of the gods, and they kill her children. Apollo slew the seven sons, and Diana destroyed the daughters. Niobe herself, overcome with grief, remained weeping over her dead children until she was changed into

8. Stone.—This scene of desolation seems typical of the ruins into which so many ambitions are thrown.

9. Juno (Statuary), the queen of heaven, now comes haughtily upon the scene. She was the wife of Jupiter, and her power was unlimited. She was strictly virtuous and inflicted severe punishment on those who were not. Her cruelty so exasperated Jupiter that he suspended her from heaven by a golden chain, with a heavy anvil attached to her feet. This only made her angry, and he was obliged to release her for fear of her vengeance. And here we lose sight of her as she vanishes in the

10. Rosy Clouds of heaven, still bent on reforming the wild ways of her husband.

Ten colored slides wood-mounted and plain, \$8.50  
Unframed colored and plain slides, \$6.75.

Our patrons will find these dissolving sets brilliant and attractive, and sure to take wherever shown. The coloring is exquisite, and the photography is the best. They are entirely revised and new pictures have been introduced in place of the older ones since the last issue of our catalogue.

## COMIC TALES.

### Reynard, The Fox.

- 1 Noble, the king, summons his court.
- 2 Reynard teaching the creed.
- 3 Reynard and Henning.
- 4 The king sends Bruin to Malepartus to summon Reynard.
- 5 Bruin meets with an overpowering reception.
- 6 Hintze, the cat, a messenger to Reynard.
- 7 Reynard's confession to Grimburd.
- 8 Reynard's Trial.
- 9 Reynard at the place of execution.
- 10 Grimburd's second visit to Reynard.

- 11 The combat.
- 12 Reynard's triumph.

### The Seasons.

- 1 Spring.
- 2 Summer.
- 3 Autumn.
- 4 Winter.

### The Adventures of Mr. Briggs with a Bull.

- 1 Mr. Briggs is met by a bull, who objects to the color of his waistcoat.
- 2 After an exciting run he endeavors to enter his garden.
- 3 Mr. Briggs in a fix.
- 4 Entry of Mr. Briggs. Total destruction of the yellow waistcoat.

### Sir Isaac Newton and the Apple.

- 1 From his study, Sir Isaac Newton seeks the fresh air.
- 2 He paces up and down, his brain full of scientific ideas.
- 3 His attention is drawn to an apple hanging on the tree.
- 4 The apple falls. Here is an example of the law of gravity.
- 5 He measures, with his compasses, the exact distance.
- 6 He picks up the apple, as an object for future investigation.



- 7 The principle involved is not quite clear to him.
- 8 He discovers the wonderful law of gravity.

#### Simon and His Pig.

- 1 Simon buys a pig and drives it home.
- 2 He takes a drop at the inn, standing on the rope.
- 3 The pig makes a bolt and and Simon falls.
- 4 The pig is attracted by the savoury smell of the dinner.
- 5 He enters in a very unpolite manner.
- 6 He meets with many obstacles, but overturns them all.
- 7 As he comes out, Simon stands in the doorway.
- 8 The pig rushes out, and Simon has an uncomfortable ride.
- 9 He rushes into the pond and gives him a drenching.
- 10 The pig gets into a sentry box, and Simon turns it over.
- 11 To secure him, he sits on the box.
- 12 The butcher finishes him, and Simon says, you are done now, my boy.

#### Man and Calf.

- 1 Mr. Bah resolves to sell his calf.
- 2 Its removal from the mother is more difficult than he imagined.
- 3 He tries to coax it with a handful of grass.
- 4 He endeavours to push it along.
- 5 He tries another method and fails.
- 6 He tries the effect of a thistle.
- 7 He seizes him by the ear and tail.
- 8 Becoming tired, he tries remonstrance.
- 9 Regaining strength, he uses additional exertion.
- 10 He carries him on his back.
- 11 He gets tired, a new idea strikes him.
- 12 Happy thought! he ties the Cow's bell round his neck, the calf immediately follows him.

#### The Adventures of Brown, Smith, Jones, and Robinson.

- 1 They go fishing and land a monster lobster.

- 2 They take it to town and sell it to Baron von Epicurus.
- 3 The Baron engages a French cook to dress it for dinner.
- 4 The cook puts the lobster into hot water, but finds he gets into it himself.

#### Mr. O'Toole's Adventures with his Umbrella.

- 1 Mr. O'Toole, when in Africa, took a walk, with his big umbrella to protect him from the sun.
- 2 He takes a nap.
- 3 A lion makes his appearance.
- 4 The lion astonished at the umbrella.
- 5 The umbrella keeps the lion at bay.
- 6 Still more astonished when he sees it opened.
- 7 Mr. O'Toole shields himself with it.
- 8 The lion retreats, somewhat dismayed.
- 9 Mr. O'Toole returns, and advises everybody to carry a large umbrella.

## CHILDREN'S SHORT STORIES.

### With Illustrations.

#### Cock Robin.

- 1 Pretty Cock Robin Singing.
- 2 Killing Cock Robin and catching his blood.
- 3 Seeing Cock Robin die and making his shroud.
- 4 Cock Robin's chief Mourner, Thrush, singing his dirge.
- 5 Digging Cock Robin's Grave.
- 6 Cock Robin's chief Bearer, and carrying the link.
- 7 Parson and Clerk.
- 8 Tolling the Bell.

#### Dick Whittington.

- 1 Dick left an Orphan—longing to go to London.
- 2 Dick found on a Doorstep by a Merchant.
- 3 Dick purchases a Cat for a Penny.
- 4 Dick on Highgate Hill hears Bow Bells.
- 5 Dick's Cat catches the Mice at the King's Dinner.
- 6 Dick receives the bags of gold for his Cat.
- 7 Dick's introduction to the King, who knighted him.
- 8 Dick Marries the Merchant's only Daughter.

#### Tom Thumb.

- 1 Tom Thumb's Mother and the Magician.

- 2 Tom gets in the boys' pockets and takes their cherry stones.
- 3 Tom tumbles into a Pudding.
- 4 Giant Gumbo swallows him whole.
- 5 Tom Thumb and King Arthur.
- 6 The King giving Tom as much money as he can carry.
- 7 Tom shut up in a Mouse-trap.
- 8 Tom killed by the poisonous breath of a Spider.

#### Little Red Riding Hood.

- 1 Red Riding Hood's new Cloak.
- 2 Red Riding Hood and her dog Tiny.
- 3 Red Riding Hood Talking to the Wolf.
- 4 The Wolf knocking at the Cottage door.
- 5 The Wolf putting Grandmother's Nightcap on.
- 6 The Wolf in Grandmother's Bed.
- 7 The Wolf caught.
- 8 The Wolf sold to a Wild Beast Show.

#### Jack the Giant Killer.

- 1 Jack and the Giant in the Pit.
- 2 Jack found asleep by Giant Blunderbore.

- 3 Jack taking the Giant's keys.
- 4 Jack deceives the two-headed Giant.
- 5 Jack at Breakfast with the Giant.
- 6 Jack Fighting a Giant.
- 7 Dragging the Giant on Shore.
- 8 Jack going to blow the Horn.

#### Old Mother Hubbard.

- 1 Mother Hubbard and her Dog.
- 2 The poor Dog was dead.
- 3 He was smoking a Pipe.
- 4 He was feeding the Cat.
- 5 He was playing the Flute.
- 6 He was riding a Goat.
- 7 He really was Spinning.
- 8 The Dame made a Curtsey and the Dog made a Bow.

#### The Three Bears.

- 1 Golden Hair picking Flowers.
- 2 Golden Hair spies the Cottage in the Wood.
- 3 Mr. Bear, Mrs. Bear, and the Little Bear out for a Walk.
- 4 Golden Hair eating Little Bear's Porridge.
- 5 Mr. Bear, Mrs. Bear, and Little Bear return home.
- 6 Little Bear finds his porridge eaten up.

- 7 Golden Hair found in Little Bear's Bed.
- 8 Golden Hair returns home.

### Jack and the Beanstalk.

- 1 Jack and his Mother—grief at parting with the Cow.
- 2 Jack sells the Cow for a hatful of Beans.
- 3 Jack finds the beans grown to a very large tree.
- 4 Jack finds a beautiful Fairy at the top of the tree.
- 5 Jack steals the Giant's Hen that lays Golden Eggs.
- 6 Jack steals the Giant's money.
- 7 Jack hides in the Copper.
- 8 Jack chops the Beanstalk and the Giant is killed with the fall.

### Children in the Wood.

- 1 Leaving the Children to the care of their Uncle.
- 2 The Children's Father forgives the Poacher.

- 3 The Children do not love their false Uncle.
- 4 The Uncle bribes two Ruffians to lose the Children in the Woods.
- 5 One Ruffian tries to kill the other and get all the money.
- 6 The Poacher that was forgiven promises to take them home, and goes to fetch food.
- 7 The Children lose themselves.
- 8 The Children fall asleep and are covered with leaves by the Robins.

### Cinderella.

- 1 Cinderella Scrubbing the Floor.
- 2 Cinderella visited by her Godmother.
- 3 Cinderella dressed by her Godmother.
- 4 Cinderella in her Carriage.
- 5 Cinderella at the Ball.
- 6 The Prince finding her Slipper.

- 7 The Prince proclaimed he would marry the lady whose foot fitted the Slipper.
- 8 Cinderella married to the Prince.

### Aladdin, or the Wonderful Lamp.

- 1 The Magician and Aladdin.
- 2 The Magician throws perfume on the fire.
- 3 Aladdin in the Enchanted Palace.
- 4 Aladdin takes the Magic Lamp to his Mother to clean.
- 5 Aladdin determines to marry the Princess Balthazour.
- 6 Aladdin's Mother presenting the Vase of Flowers to the Sultan.
- 7 The Magician gets possession of the Magic Lamp.
- 8 The Sultan enraged at the disappearance of Aladdin's Palace, Wife, etc.

## EDUCATIONAL SLIDES.

### Movable Astronomical Diagrams.

A very desirable series. Revolving motion produced by Rack-work.

Per set, in box with lock, \$40.00.

- 1 The Solar System, showing the Revolution of all the Planets, with their Satellites, round the Sun.
- 2 The Earth's Annual Motion round the Sun, showing the Parallelism of its axis, thus producing the Seasons.
- 3 The cause of Spring and Neap tides, and the Moon's Phases, during its revolution.
- 4 The Apparent Direct and Retrograde Motion of Venus or Mercury, and also its Stationary Appearance.
- 5 The Earth's Rotundity, proved by a Ship sailing round the Globe, and a line drawn from the eye of an observer placed on an eminence.
- 6 The Eccentric Revolution of a Comet round the Sun, and the appearance of its Tail at different points of its Orbit.
- 7 The Diurnal Motion of the Earth, showing the Rising and Setting of the Sun, illustrating the cause of Day and Night, by the Earth's rotation upon its Axis.
- 8 The Annual Motion of the Earth round the Sun, with the Monthly Lunations of the Moon.
- 9 The various Eclipses of the Sun with the Transit

of Venus. The Sun appears as seen through a telescope.

- 10 The various Eclipses of the Moon. The Moon appears as seen through a telescope.

### Astronomical Paintings Without Motion.

Per set, in box, with descriptive Lecture, \$25.00.

- 1 The Earth's Rotundity (lever, movable).
- 2 New Moon.
- 3 New Moon. First Quarter.
- 4 Full Moon.
- 5 The Moon's Phases.
- 6 Telescopic View of the Sun.
- 7 Telescopic View of Mercury.
- 8 Telescopic View of Venus.
- 9 The Earth and the Moon.
- 10 Telescopic View of Mars.
- 11 Telescopic View of Vesta, Juno, Ceres and Pallas.
- 12 Telescopic View of Jupiter and His Moons.
- 13 Telescopic View of Saturn and His Moons.
- 14 Telescopic View of Saturn with rings edgewise, and His Moons.
- 15 Telescopic View of Uranus and His Moons.
- 16 Orbit of a Comet.
- 17 Comet of 1819.
- 18 Comet of 1811.
- 19 Comet of 1680.
- 20 Solar System of Ptolemy.
- 21 Solar System of Copernicus.
- 22 Solar System of Tycho Brahe.
- 23 Solar System of Newton.
- 24, 25 The Sun's Magnitude.
- 26 Eclipse of the Moon.

- 27, 28 Eclipse of the Sun.
- 29 The Moon's Orbit.
- 30 Different Eclipses of the Moon.
- 31 The Seasons.
- 32 The Zodiac.
- 33 Spring Tide at New Moon.
- 34 Spring Tide at Full Moon.
- 35 Neap Tide.
- 36, 37 Constellation Ursa Major.
- 38, 39 Constellation Orion.
- 40 The Milky Way.
- 41 Nebulae.

### Thirty Choice Astronomical Diagrams.

Per Set, \$37. Per Slide, \$1.25.  
Those marked with a \* are included in a set of Twenty—Price \$25.00—including a Printed Lecture

- 1 System of Ptolemy.
- 2 System of Tycho Brahe.
- 3 \*The Solar System.
- 4 Spot on the Sun as seen by a powerful telescope (Naysmith's).
- 5 \*Phases and apparent dimensions of Venus at its extreme and mean distance from the earth.
- 6 \*Inclination of the Axis of the Planets—Venus, Earth, Mars, Jupiter and Saturn.
- 7 \*Diagram illustrating Refractions.
- 8 \*Parallels, Meridians and Zones.
- 9 \*True and mean place of a Planet in its Orbit.
- 10 Seasons, length of Days, etc.
- 11 \*Signs of the Zodiac.
- 12 \*Telescopic View of the Full Moon.

- 13 \*Telescopic View of the Moon past the last quarter.
- 14 \*Cause of the Moon's Phases.
- 15 Mountains on the Moon. View of Copernicus (Naysmith).
- 16 \*Mountains on the Moon. View of Tycho and Surrounding Craters (De la Rue).
- 17 \*Inclination of the Moon's Orbit.
- 18 \*Diagram to explain Eclipses.
- 19 Total Eclipse of the Sun (De la Rue).
- 20 \*Illustration of the Tides.
- 21 \*Telescopic View of Mars, Sept., 1862 (Lockyer).
- 22 \*Telescopic View of Jupiter (De la Rue).
- 23 \*Telescopic View of Saturn.
- 24 \*Comet of 1811.
- 25 \*Comparative Size of the Sun and Planets.
- 26 North Circumpolar Stars, extending about 60 deg. from the Globe.
- 27 Orion and Adjacent Constellations.
- 28 \*Star Cluster or Resolvable Nebulae.
- 29 Dumb-bell Nebulae in Leo as seen in Lord Rosse's Telescope.
- 30 Lord Rosse's Telescope.

### The Sun.

Per Slide, \$1.50. Per Set, \$15.

- 1 Comparative size of Sun and Planets.
- 2 Sun Spots and Faculae.
- 3 Solar Cyclone, May 5, 1857 (Secchi).
- 4 Willow Leaf Appearance (Naysmith).
- 5 Total Eclipse, Aug., 1870.
- 6 Total Eclipse (De la Rue).

- 7 Spectra of Sun, Chromosphere, Prominences and Corona.
- 8 Spectroscopic indications of rapid motion of Prominences.
- 9 Section of Sun.
- 10 Solar Prominences.

### The Moon.

Per Slide, \$1.50. Per Set, \$15.

- 1 Map of the Moon. (Beer and Madler.)
- 2 Diagram illustrating Refraction.
- 3 The Earth, as seen from Moon.
- 4 Telescopic View of the Full Moon.
- 5 Telescopic View of the Moon, first quarter.
- 6 Telescopic View of the Moon, last quarter.
- 7 Telescopic View of the Moon, past last octant.
- 8 Environs of Tycho (from a photograph by W. De la Rue.)
- 9 Region S. E. of Tycho.
- 10 View of Copernicus (Naysmith).

### Maps.

Per Slide, 50 cents.

- Relief Map, North America.  
 " " South America.  
 " " Europe.  
 " " Asia.  
 " " Africa.  
 School Map of the United States.  
 Map of Canada.  
 " Gen. Grant's Tour of the World.  
 " North Atlantic Ocean.  
 " Europe.  
 School Map of Europe.  
 Map of Great Britain.  
 " England.  
 " Ireland.  
 " Scotland.

- Illustrated Map of London.  
 Map of France.  
 Illustrated Map of Paris.  
 Map of Switzerland.  
 Map of the Mediterranean  
 " Venice.  
 " Grecian Archipelago.  
 " Pompeii.  
 " Rome.  
 " " Time of Paul.  
 " " A u - gustus.  
 " Sinai Peninsula.  
 " " (Trumbull's).  
 " " and Vicinity.  
 " the Ruins of Petra.  
 " " Indusian Empire.  
 " Palestine.  
 " Jerusalem.  
 " the Soudan in Egypt.  
 " Nile Delta.  
 " " River Nile.

Language Map of India.

Map of Japan.

- " China.  
 " Australia.  
 " St. Paul's First Mission Journey.  
 " St. Paul's Second Mission Journey.  
 " St. Paul's Third Mission Journey.  
 " Missions in Scandinavia.  
 " Missions in Germany and Switzerland.  
 " Missions in Italy.  
 " " India.  
 " " Mexico.  
 " " South America.  
 Map of Missions in Japan.  
 " " Bulgaria.  
 " " China.  
 " " Liberia.  
 " India.  
 " the Nile.  
 " " Eastern Hemisphere.  
 Map of the Western Hemisphere.

## THE SOLAR SYSTEM ILLUSTRATED,

WITH A GLIMPSE AT THE STELLAR UNIVERSE.

- 1 Introduction.
- 2 Relative sizes of the Sun and Planets.
- 3 Apparent size of the Sun as visible from the Planets.
- 4 Telescopic View of Solar Disk.
- 5 Typical Sun Spot.
- 6 Zones of Sun Spots.
- 7 Comparative sizes of the principal Planets.
- 8 Phases of an inferior Planet.
- 9 Comparative sizes of Venus and Earth.
- 10 Telescopic Appearances of Venus.
- 11 Constant inclination of Earth's Axis to the Ecliptic.
- 12 The Seasons.
- 13 Curvature of the Earth's Surface.

- 14 Full Moon.
- 15 The Tides.
- 16 Lunar Eclipses.
- 17 Solar Eclipses, 1836 to 1860.
- 18 Total Solar Eclipse.
- 19 Views of Solar Prominences.
- 20 Moon at First Quarter.
- 21 Moon at Third Quarter.
- 22 Triesnecker.
- 23 Ideal Lunar Landscape.
- 24 Views of Mars.
- 25 Comparative sizes of Jupiter and Earth.
- 26 Comparative sizes of Saturn and Earth.
- 27 Views of Saturn.
- 28 View of Saturn.
- 29 Orbits of the Uranian Satellites.
- 30 Diagram explaining Discovery of Neptune.
- 31 A Shooting Star.
- 32 Meteoric Shower.

- 33 Ring of Meteoric Bodies round the Sun.
- 34 Great Comet of 1811.
- 35 Halley's Comet.
- 36 Donati's Comet.
- 37 Coggia's Comet.
- 38 The Celestial Sphere and Diurnal Motion.
- 39 The Northern Circumpolar Stars.
- 40 Ursa Major and Ursa Minor.
- 41 Part of Constellation "Gemini," as seen with the naked eye.
- 42 Part of Constellation "Gemini," as seen with Telescope.
- 43 The Northern "Milky Way."
- 44 Herschel's Theory of the Universe.
- 45 Multiple System of Stars.
- 46 Star Clusters.

- 47 Annular Nebulae.
- 48 Nebula in Canes Venatici.
- 49 The Great Nebula in Orion.
- 50 Central part of the Orion Nebula.

### Geology.

*A Choice Series of Finely Executed Scenes.*

*Per Set, \$30. Per Slide, \$1.50.*

- 1 The Geological Record.
- 2 Ideal Section of the Earth's Crust.
- 3 Thickness of the Earth's Crust.
- 4 Section of a Volcano in Action.
- 5 Fingal's Cave.
- 6 Grotto of Antiparos.
- 7 Glacier, Mount Rose.
- 8 Glacier Tables.
- 9 Coral Island.
- 10 Corals.
- 11 Rain Drop Marks.
- 12 Trilobites.
- 13 Ammonites.
- 14 Pterichthys, Coelocetes, Cephalopods.
- 15 Fossil Fern, Impression of.
- 16 Forest of the Coal Period.
- 17 Ichthyosaurus, Plesiosaurus and Pterodactyle.
- 18 Pterodactyle.
- 19 Fossil Footmarks.
- 20 The Mammoth Restored.

### Additional Geology.

*Colored, per Slide, \$1.50.*

- 21 Skeleton of Megatherium.
- 22 Sigillari.
- 23 Lepidodendron.
- 24 Tracks. (The Stone Books.)

- 25 Bone Cavern (Wirksworth, Eng.)
- 26 Skeleton of Mastodon.
- 27 Pentacrinurus Briareus.
- 28 Apocrinites and Actinocrinites.
- 29 Skeleton of Plesiosaurus.
- 30 Dinornis Mantelli.
- 31 Foraminifera (from Atlantic Soundings).
- 32 Lava Arch, Iceland.
- 33 Section of the Cavern of Gailleuruth (Hartz).
- 34 Sandstone Columns in Saxony.
- 35 Skull of Mosasaurus.
- 36 Temple of Serapis (Puzosoli).
- 37 The Dodo (an extinct bird).
- 38 Convuluted Strata.
- 39 Skeleton of Ichthyosaurus.
- 40 Diplacanthus Striatum.

### Ideal Geological Landscapes.

An artistic series of superior execution, illustrating the various periods from the Silurian to the appearance of man.

- 1 Silurian Period.
- 2 Devonian Period.
- 3 Transition Period.
- 4 Carboniferous Period.
- 5 Forest of Coal Period.
- 6 Permian Period.
- 7 Triassic Period.
- 8 Conchylarian Sub-Period.
- 9 Saliferous Period.
- 10 Lower Oolitic Period.
- 11 Lower Cretaceous Period.
- 12 Cretaceous Period.

- 13 Eocene Period.
- 14 Miocene Period.
- 15 Drift Period.
- 16 Recent Period.

### Crystallography.

- 1 Primary Forms.
- 2 Regular System.
- 3 Quadratic System.
- 4 Hexagonal System.
- 5 Rhombic System.
- 6 Monoclinic System.
- 7 Triclinic System.
- 8 Ice Flowers (Tyndall).
- 9 Ice Crystals.

### Spectrum Analysis.

*Per Slide, \$1.50.*

- 1 Decomposition of Light by Prism (Solar Spectrum).
- 2 Comparative intensity of heating, luminous and chemically acting rays—in spectrum.
- 3 Fraunhofer's Map of Solar Spectrum (1814-15).
- 4 The Spectroscope.
- 5 Spectra of the Sun, Beta Cygni and Hydrogen.
- 6 Spectra of Potassium, Rubidium, Sodium and Lithium.
- 7 Spectra of Carbon, Comet II., Bror-en's Comet (1868) Spark and Nebulae.
- 8 Spectra of Aldebaran and Alpha Orionis.
- 9 Kirchhoff's Map (from 194 to 220) and Rutherford's photograph of the same.
- 10 Spectra of chlorophyll, chloride of uranium, magenta and blood.

## SPECTRUM ANALYSIS.

Including representations of the various instruments and apparatus made use of in recent spectroscopic researches, and descriptive of the results of the application of Prismatic Analysis to the study of terrestrial substances, and to the physical constitution of the celestial bodies.

SELECTED AND ARRANGED BY THE REV. PHILIP SLEEMAN, F.R.A.S., F.R.M.S., ETC.

- 1 The refraction of light.
- 2 The prism.
- 3 Deviation of luminous ray by prism.
- 4 Explanation of deviation.
- 5 Decomposition of light by prism.
- 6 Unequal refrangibility of different colors.
- 7 Recombination of light No. 1.
- 8 Recombination of light No. 2.
- 9 Effect of aperture on spectrum.
- 10 Necessity for use of narrow slit.
- 11 Use of collimating lens.
- 12 Spectroscope with single prism.
- 13 Spectroscope with reflected scale.
- 14 Sectional view of spectroscope.
- 15 Slit, and comparison prism.
- 16 Increased dispersion by series of prisms.
- 17 Automatic arrangement for battery of prisms.
- 18 Large spectroscope with returning ray.
- 19 Anomalous dispersion.
- 20 Direct-vision prisms.
- 21 Miniature spectroscope.
- 22 Direct-vision spectroscope.
- 23 Micro-spectroscope. Elevation.
- 24 Micro-spectroscope. Section.
- 25 Solar spectroscope. (Secchi.)
- 26 Star spectroscope. (Secchi.)
- 27 Star spectroscope. (Huggins.)
- 28 Various classes of spectra.
- 29 Chart of radiation spectra. No. 1.
- 30 Chart of radiation spectra. No. 2.
- 31 Chart of radiation spectra. No. 3.
- 32 Chart of radiation spectra. No. 4.
- 33 Chart of radiation spectra. No. 5.
- 34 Chart of radiation spectra. No. 6.
- 35 Chart of radiation spectra. No. 7.
- 36 Chart of radiation spectra. No. 8.
- 37 Chart of radiation spectra. No. 9.
- 38 Chart of radiation spectra. No. 10.
- 39 Double spectra.
- 40 Bunsen's maps of spectra.
- 41 Projection of spectrum on screen. No. 1.
- 42 Projection of spectrum on screen. No. 2.
- 43 Foucault's and Duboscq's electric lamps.
- 44 Ruhmkorff's spectral lamp.
- 45 Apparatus for photographing spectra.
- 46 Slit with several apertures.
- 47 Long and short lines in spectra, with explanation.

- 48 Photographic comparisons of spectra. No. 1.
- 49 Photographic comparisons of spectra. No. 2.
- 50 Phosphorescent spectra.
- 51 Fluorescent spectra.
- 52 Apparatus for spark spectra
- 53 Vacuum tubes.
- 54 Becquerel's apparatus for spark spectra.
- 55 Apparatus for spectra of metallic vapors.
- 56 Chart of absorption spectra. No. 1.
- 57 Chart of absorption spectra. No. 2.
- 58 Chart of absorption spectra. No. 3.
- 59 Chart of absorption spectra. No. 4.
- 60 Chart of absorption spectra. No. 5.
- 61 Chart of absorption spectra. No. 6.
- 62 Bunsen's apparatus for reversal of sodium lines.
- 63 Reversal of sodium lines on screen.
- 64 Solar spectrum. (Fraunhofer.)
- 65 Solar spectrum. (Kirchhoff.)
- 66 Solar spectrum. Photograph by Draper.
- 67 Coincidences of Fraunhofer lines with those of sodium, &c.
- 68 Coincidences of Fraunhofer lines with those of iron.
- 69 Telluric lines in solar spectrum.
- 70 General view of chromosphere.
- 71 Typical sun spot. (Langley.)
- 72 Spectrum of sun spot. (Secchi.)
- 73 Spectrum of sun spot. near D lines.
- 74 Thickening of D lines in sun spot.
- 75 View of Total Solar Eclipse, 1870.
- 76 View of solar prominences.
- 77 Solar prominences, examined with radial slit.
- 78 Spectra of solar prominences. (Lockyer.)
- 79 Various spectra of solar prominences.
- 80 Solar prominences, examined with tangential slit.
- 81 Solar prominences; seen entire, by use of wide slit.
- 82 Long and short lines in solar prominences.
- 83 Solar cyclones. (Lockyer.)
- 84 "Motion Forms." (Lockyer.)
- 85 F line, in Sirius and the Sun.
- 86 Measurement of velocity by displacement of F line.
- 87 Spectra of Sun, Corona, and Aurora Borealis.
- 88 Types of stellar spectra. (Secchi.)
- 89 Spectrum of Sirius.
- 90 Spectrum of A in a Herculis.
- 91 Spectrum of B Cygni.
- 92 Spectrum of T Coronae Borealis.
- 93 Spectra of a Orionis and Aldebaran.
- 94 Spectrum of Uranus.
- 95 Spectrum of a nebula.
- 96 Cometary and carbon spectra.
- 97 Thermal, luminous, and actinic rays in solar spectrum.
- 98 Thermal intensities in spectra of Sun and of the electric light.
- 99 Chemical intensity in solar spectrum.
- 100 Influence of solar spectrum on sensitive silver salts.

A number of carefully selected slides of Solar Eclipses, Sun Spots, Prominences, Nebulae, &c., &c., are included in the series on "ASTRONOMY." Many of these might be used with advantage in further illustration of the subject of "Spectrum Analysis." See also the series on "LIGHT."

### Extinct Animals.

From Originals by Waterhouse Hawkins, Esq., the eminent Naturalist.

Per Set, including Printed Lecture, 29. Per Slide, \$1.50.

- 1 Plesiosaurus, Teleosaurus, Ichthyosaurus, Pterodactylus, Ammonites, Gryphaea.
- 2 Megalosaurus, Pterodactyle.
- 3 Iguanodon, Hylaeosaurus.
- 4 Anoplotherium, Comamine, Anoplotherium, Gracile, Palaeotherium.
- 5 Megatherium, Glyptodon.
- 6 Elephas, Primigenius, Hyena Spelaea, Hippopotamus Major, Ursus Spelaeus, Machaerodus Latidens.

### Honey Bee.

Per Set, \$12.50. Per Slide, \$1.25.

- 1 Queen, Working Bee, Drone and Comb.
- 2 Head of the Worker.
- 3 Abdomen of the Worker.
- 4 Structure of the Eye of a Bee.
- 5 Prothorax of the Worker.
- 6 Wing and Hind Leg of Worker.

- 7 Wing of Worker.
- 8 Digestive, Respiratory and Nervous System of the Bee.
- 9 Larva and Pupae of Worker.
- 10 Home of the Bees

### Botanical Illustrations.

Per Set, \$25.00. Per Slide, \$1.25.

- 1 Parts of a Plant.
- 2 Germination.
- 3 Roots.
- 4 Buds and Leaves.
- 5 Flowers and Inflorescence.
- 6 Stamens and Pistils.
- 7 Exogenous Structure.
- 8 Crowfoot family, Columbine, etc.
- 9 Pink Family.
- 10 Tobacco.
- 11 Clover.
- 12 Apple.
- 13 Rose.
- 14 Melon.
- 15 Composite Family, Chickory and Calliopsis.
- 16 Oak.
- 17 Fir and Hemlock Spruce.
- 18 Endogenous Structure.
- 19 Date Palm.
- 20 White Garden Lily.

### Additional Scientific.

Natural History. Beautifully colored photographs of Animals, Birds, Reptiles and Fishes. Per slide, \$1.50.

Whale Fishery. Per set of 12 slides, \$18; per slide, \$1.50.

Entomological Illustrations. Per set of 20 slides, \$25; per slide, \$1.25.

Insects, sixty subjects. Per slide, \$1.50.

Insect Metamorphosis, showing different stages of transformations, with beautiful landscapes; twenty subjects. Per slide, \$1.50.

Flowers and Plants; fifty subjects. Per slide, \$1.50.

Important Plants Useful to Man. Per set of 10 slides, \$12.50.

Optics. Per set of 20 slides, \$25; per slide, \$1.50.

Natural Phenomena. Per set of 12 slides, \$18; per slide, \$1.50.

Anatomical Illustrations, from engravings of Bonamy and Broca, Paris. Per slide, colored, \$1.50; plain, 50 cents.

Nervous System, from Plates by Hirschfeld; the best on the subject. Per slide, colored, \$1.50; plain, 50 cents.

## HUMAN PHYSIOLOGY POPULARLY EXPLAINED; OR, THE HOUSE WE LIVE IN.

### 1 Introductory Slide.

#### *Skeleton.*

- 2 Human Skeleton.
- 3 Skull (side view).
- 4 Skull (front, top, and section.)
- 5 Vertebral Column.
- 6 Pelvis.
- 7 Ribs.
- 8 Clavicle, Scapula, Arm and Hand.
- 9 Hip, Leg, and Foot.
- 10 Ligaments.
- 11 Effects of Tight Lacing on the form of the Skeleton.

#### *Muscles.*

- 12 Muscular System.
- 13 Natural Levers.

#### *Digestive Organs.*

- 14 Viscera of Human Body.
- 15 Course of Ingesta.
- 16 Jaws.
- 17 Kinds of Teeth.
- 18 Salivary Glands.
- 19 Liver, Pancreas, Stomach (interior).
- 20 Gastric Glands, Structure of Intestines.

#### *Circulatory Organs.*

- 21 Systematic Circulation.
- 22 Heart and Lungs (exterior).
- 23 Heart (interior, right side).
- 24 Blood Corpuscles (Human and Comparative).

#### *Respiratory Organs.*

- 25 Pulmonary Circulation
- 26 Trachea, Lungs (half section).
- 27 Transverse section of Thorax.
- 28 Cavity of Thorax, Diaphragm.
- 29 Minute Structure of Lungs
- 30 Absorbent System.
- 31 Lymphatics.
- 32 Kidney (exterior and section).
- 33 Renal Circulation.
- 34 Sections of Skin.
- 35 Liver, etc.

#### *Nervous System.*

- 36 Cerebro-Spinal System.
- 37 Ganglionic System.
- 38 Section of Brain, showing twelve pairs of nerves.
- 39 Under surface of Brain, showing twelve pairs of nerves.
- 40 Spinal Cord.

#### *Senses.*

- 41 Touch—nerve endings in skin.
- 42 Smell—sections of nose.
- 43 Taste—tongue.
- 44 Sight—sections of eye.
- 45 Sight—Minute structures of eye.
- 46 Sight—muscles of eye and Lachrymal apparatus.
- 47 Hearing—ear.
- 48 Speaking—larynx, etc.
- 49 Minute structure of Bone.

### 50 Minute structure of Teeth.

### 51 Minute structure of Muscle.

### 52 Structure and Growth of Nails and Hair.

## Anatomy and Physiology.

*Per Set, in box, \$30. Per Slide, \$1.50.*

- 1 Human Skeleton.
  - 2 Human Skull.
  - 3 Section of the Spine, etc.
  - 4 Teeth, and structure of same.
  - 5 Muscles, front view.
  - 6 Muscles, back view.
  - 7 Muscles of head, neck and face.
  - 8 General View of the Digestive Organs, in place.
  - 9 The Digestive Organs.
  - 10 The Stomach, Liver and Pancreas.
  - 11 The Thoracic Duct.
  - 12 Heart and Lungs.
  - 13 Diagram of Circulation.
  - 14 Skin and structure of same.
  - 15 Brain and Spinal Cord.
  - 16 General View of the Nerves.
  - 17 Fifth Pair of Nerves.
  - 18 Facial Nerves.
  - 19 Diagram of the Eye.
  - 20 Anatomy of the Ear.
- We can furnish a large Phenological Head, showing all of the organs with great distinctness.

*Plain, colored, \$1.50. Plain, 50 cents.*

## MICROSCOPIC OBJECTS.

### **Medical Pathology.**

- Lung—Miliary Tubercle, Croupous Pneumonia. Acute Bronchitis, Syphilitic Phthisis, Phthisis. Tubercular Pneumonia. Tubercle. Pneumonia, Pleurisy, Emphysema, Empyema. Pyaemic Tuberculosis. Carcinoma. Catarrhal Pneumonia. Hemorrhagic " Embolic " Round-celled Sarcoma. Melanocarcinoma. Smothered Child. Saw Grinder's Liver—Nutmeg. Fatty Degeneration. Amyloid " Peculiar Fat in Lobules. Carcinoma. Cirrhosis. Indurated with Atrophy of Lobules. Cancer and Cirrhosis. Syphilis.

- Abscess. Red Atrophy. Parenchymatous Inflammation. Amyloid and Fatty Degeneration. Cirrhotic with Vascular Tumor. Pylorus—Carcinoma. Stomach—Chronic Catarrh. Passive Congestion. Thickening. Colon—Acute Inflammation. Mucous Polypus. Ileum—Tubercle. Amyloid Degeneration. Inflammation. Enteritis. Ulceration. Typhoid Ulceration. Splenic—Inflammation. Tubercle. Enlarged in Chronic Heart Disease. Amyloid (or Sago). Calcareous Cleatrix. Embolism. Leukæmia. Pancreas—Carcinoma. Kidney—Suppuration. Fatty. Scarlet Fever.

- Cirrhosis. Hypertrophied. Amyloid. Bright's Disease. Bright's Disease, Acute. Indurated. Post-Scarlatinal Dropsy. Dropsy. Tubercle. Cirrhotic and Amyloid. Gouty or Red Degeneration. Pyonephritis. Acute Interstitial Nephritis. Chronic Interstitial Nephritis. Embolism. Atrophy. Medullary Cancer. Brain—Cerebrum Meningitis. Cerebrum, Acute Inflammation. Cerebrum Softening. Cerebrum, General Paralysis. Cerebrum Atrophy. Cerebellum, Locomotor Ataxia. Dura Mater, much thickened. Pons Varoli, General Paralysis.

Pons Varoli, Diabetes.  
 Pons Varoli, Locomotor Ataxia.  
 Medulla Oblongata in Diabetes.  
 Medulla Oblongata Myelitis.  
 Medulla Oblongata Locomotor Ataxia, etc.  
 Spinal Cord from the various regions in  
 Tetanus.  
 Hydrophobia.  
 Locomotor Ataxia.  
 Degeneration of the Nerve Cells  
 Fracture.  
 General Paralysis.  
 General Paralysis in Insanity.  
 Skin—Granulations in Healing Sores.  
 Granulations of Ulcers.  
 Hypertrophied.  
 Pityriasis.  
 Tattooed.  
 Cancer.  
 Scarlet Fever.  
 Variola, Simple.  
 Icthyosis.  
 Variola, Hemorrhagic.  
 Lupus Vulgaris.  
 Small-pox, Hemorrhagic.  
 Glands—Carcinoma of Lymphatic.  
 Carcinoma of Prostate.  
 Suprarenal Carcinoma in Addison's Disease.  
 Prostate enlarged.  
 Hypertrophied, from Neck.  
 Arteries—Cerebral (Atheroma of).  
 Cerebral, organizing Thrombus.  
 Cerebral in Syphilis.  
 Chronic Thickening.  
 Aortic Valve Ossified.  
 Heart—Pericarditis.  
 Fatty Degeneration.  
 Fatty Infiltration.  
 Fibroid Degeneration.  
 Various—Muscle, Fatty Infiltration.  
 Diaphragm, Calcareous Nodule.  
 Muscle, Farcy Tubercle.  
 Uterus, Chronic Leucorrhoea.  
 Pseudohypertrophic Muscular paralysis.  
 Trichinous Muscle, etc.

# **Surgical Pathology.**

Cancer of Lymphatic Gland.  
 " " Recurrent Fungoid of Breast.  
 Cancer of Breast.  
 " " Prostate Gland.  
 " " Ovary.  
 " " Skin.  
 " " Brain (Encephaloid).  
 " " Jaw.  
 " " Face.  
 Epithelioma of Vulva.  
 " " Lip.  
 " " Hand.  
 " " Tongue.  
 " " Foot.  
 " " Penis.  
 " " Jaw.  
 " " Cheek.  
 " " Leg.

Sarcoma—Periosteal of Humerus.  
 " Recurrent in Scalp.  
 " Testicle (Round-celled).  
 " Retro Peritoneal of Hand (Round-celled).  
 " Femur.  
 " Lung.  
 Alveolar of Scapula.  
 Cystic of Testicle.  
 Melanosarcoma of Lung.  
 Osteosarcoma of Knee.  
 Spindle-celled of Uterus.  
 " Frontal Bone.  
 " Mesentery.  
 " Lymphatic Gland.  
 Melanotic of Eyeball.  
 Various—Inflamed Muscular Tissue in Hip Disease.  
 Cystic Adenoma of Breast.  
 Softened Knee Joint.  
 Ulcer of Tongue.  
 Bronchocele.  
 Fibroid Degeneration of Testicle.  
 Enlarged Prostate Gland.  
 Inflamed Skin.  
 Indurated Testicle.  
 Myeloid Tumor of Jaw.  
 Bony Tumor of Jaw.  
 Enlarged Tonsils.  
 Skin Plastic effusion from foot after inflammation.  
 Papilloma of Thigh.  
 Naevus from Occiput of Infant.  
 Simple Lymphadenoma from Neck.  
 Recurring Periosteal Tumor of Frontal Bone.  
 Enechondroma of Parotid Region.  
 Enlarged Strumous Gland from Neck.  
 Chronic inflammation of a Lymphatic Gland.  
 Chronic Cystitis of Bladder.  
 Fibroid Cyst from Breast.  
 " " Patella.  
 " " Uterus.  
 " " Hand.  
 " " Jaw.

Inflamed Muscle.  
 Ulcer of Tongue.  
 Chancere of Prepuce.  
 Keloid Growth from Arm after Gunshot wound.  
 Elephantiasis of Neck.  
 Soft Wart from Jaw.  
 Submaxillary Lymphadenoma.  
 Enechondroma of Clavicle.  
 Cavernous Tumor of Tongue.  
 Uterine Polypus.  
 Gamma from Parietal Bone.  
 Caries of Bone.  
 Myxoma from Arm.  
 " " Ear.

# **Urinary Deposits and Spermatozon.**

50 to 75 cents each: \$5 to \$7 per dozen.  
 Uric Acid in normal and in rare forms.  
 In Cirrhosis of Liver.  
 Dysentery.  
 Hepatic Ascites.

Pneumonia.  
 Gastric Fever.  
 Hematuria.  
 Acute Rheumatism.  
 Pericarditis.  
 Pleuritis.  
 Gout.  
 Gastralgia.  
 Dyspepsia.  
 Scurvy.  
 Rheumatic Gout.  
 Rheumatic Fever.  
 Rheumatic Endocarditis and Pericarditis.  
 Congestion of Lungs.  
 Gout.  
 Eczema.  
 Urea.  
 Urate of Ammonia.  
 Urate of Soda.  
 Nitrate of Urea.  
 Oxalate of Urea.  
 Triple Phosphate, Stellate and Rhombic.  
 In Hip-joint Disease.  
 Renal Calculus.  
 General Paralysis.  
 Ulceration of Knee-joint.  
 Catarrh of Bladder.  
 Ramollissement of Brain.  
 Endocarditis of Brain.  
 Acute Rheumatism.  
 Hepatitis.  
 Syphilitic Hepatitis.  
 Hippuric Acid, Typical form.  
 Oxalate of Lime, Octohedral form.  
 Oxalate of Lime, Dumb-bell form.  
 Carbonate of Lime, from Man and Horse.  
 Oxalurate of Ammonia.  
 Murexide Cholesterine.  
 Sugar of Milk, Sugar in Diabetes, Cystine or Cystic Oxide.  
 Spermatozoa from Man, Bird, Boar, Elephant, Fish, Mouse, Dog, Horse, Newt, Rat, Rabbit, Hare, Rhinoceros, Ram, Goat, Camel, Deer, Wolf, Ass.

# **Toxicological Series.**

## *Typical forms of Poisons.*

Animal—Cantharadine from Spanish Fly.  
 Metallic—Arsenious Acid, or White Arsenic.  
 " Mercury from Mercurial Vapor.  
 " Tartar Emetic or Tartarated Antimony.  
 Vegetable—Morphine, from Opium.  
 " Strychnine, from Nux Vomica.

# **Physiological Preparations.**

(Injected, stained, and both injected and stained.)

These preparations are all made by the Messrs. Cole, and each one is specially selected. They are not the ordinary commercial slides, of which too many are sent to this country. Their price

is exceedingly low for such preparations, 75 cents each, or \$7.50 per dozen.

Brain—Human, Cerebellum.  
" Cerebrum.  
" Medulla oblongata.  
" Pons Varolii.

Cat, Cerebrum.  
" Cerebellum.  
" Medulla oblongata.

Monkey, Cerebellum.  
" Cerebrum.  
" Medulla oblongata.

Spinal Cords—From various regions and trans. and long. sects.  
Human.

Cat.  
Horse, etc.

Generative organs, etc.

Human, Penis, Infant.

" Testicle, Adult.

" " Child.

" " Infant.

" Uterus.

" " Adult.

" " Infant.

" Ovary, Adult.

" " Child.

" Umbilical Cord.

" Placenta.

Cat Testicle.

" Ovary.

" Bladder.

Monkey, Penis.

" Testicle.

Rabbit, Penis.

Rat, Penis.

Tongue—Human, Adult and Child.

Cat and Kitten.

Rabbit.

Rat.

Puppy and Snake.

Heum—Human, trans. sect.

Adult and Infant, Mucous Membrane.

Rabbit, Mucous Membrane.

Cat " "

Puppy " "

Colon—Rabbit, Mucous Membrane.

Cat, Mucous Membrane.

Kidney—Human, Adult and Child.

Snake (injected) from artery only.

Cat (from artery only).

Rabbit (from both artery and vein).

Rat (from both artery and vein).

Fowl (from both artery and vein).

Skin—Human and Cat.

Cuticle—Human.

Stomach—Human.

Cat.

Fowl.

Puppy.

Glands, etc.

Human, Thyroid.

" Submaxillary.

" Parotid.

" Prostate.

" Lymphatic.

" Mammary.

Human, Mammary, during

" lactation.

" Thymus.

" Sublingual.

Cat, Lymphatic.

" Submaxillary.

" Suprarenal.

Lung—Human, Adult, Child.

and Foetal.

Cat, (air cells inflated).

Fowl.

Snake.

Liver—Human, etc.

Cat, etc.

Various Organs.

Human, Larynx of Infant.

" " Foetal.

" Optic Nerve.

" Nerves, various.

" Scalp.

" " of Negro.

" Pancreas.

" Spleen.

" Tendon.

" Arteries.

" Cartilages, various

" Bones.

" Tissues.

Human Eyelid.

" Nose.

" Suprarenal Capsule, etc.

Cat, Oesophagus.

" Pad of Foot.

" Olfactory Bulb.

" Muscle.

" Bladder.

Sheep, Optic Nerve.

Monkey, Bladder, etc.

Dog, Tail of Puppy.

" Foot of "

Frog, Preparations of all the

organs, either injected or

stained.

### Animal Substances and Organs.

50 to 75 cents each; \$5 to \$7.50 per dozen.

Section of Cat's Tongue.

" " Human Tongue.

" " Toe of White

Mouse.

Human Cartilage from Sternum.

Human Cartilage from Foetus

Cellular Cartilage in ear of

Bat.

Human Tendon (section).

" Muscular Fibre, involuntary.

" White Fibrous Tissue.

" Yellow Elastic Tissue.

" Adipose Tissue.

Striated Ligamentum nuchae from neck of Giraffe.

*Pigment cells*, showing the deposit of coloring matter in skin of African Negro, Sepia pigment in skin of Cuttlefish, Caterpillar, Sole, Triton, Frog, Toad, Snake, Eye of Ox, Human Eye, Tail of Shrimp and Hair of Ornithorynchus paradoxus.

### Parasitic Insects, Acari, etc.

50, 60 and 75 cents each; \$5, \$6 and \$7.50 per dozen.

Parasites from Bee, Canary.

Crow, Curlew, Dog, Fowl.

Gull, Eagle, Golden Plover, Humming-bird.

Hedgehog, Hog, Housefly, Kestrel, Mouse, Mole.

Owl, Ox, Oyster-catcher, Passenger-pigeon, Rook, Starling, Sheep, Squirrel, Tern, Turkey, Water-nat, Wood Pigeon, Vampire Bat (Calcutta) and British Beetles.

Tick from Sheep, Hedgehog and Red Deer.

Flea from Bat, Cat, Dog, Fowl, Pigeon, Squirrel, Hedgehog.

Mole's Flea, without Eyes.

Flea (sexes), Plurax irritans.

Cimex lectularius, Sexes.

Acarus of Itch, Sarcoptes Scabiei, \$1.50.

Acarus of Itch, Male and Female, \$2.

Acarus of Itch, Male, Female and Larva, \$2.50.

Acarus of Itch, Male, Female, Larva and Ovum, \$3.

Coccus or Scale Insect in Skin of Orange.

Acari or Mites from Ergot of Rye.

Meal-mites.

Book-mite.

House-mite.

Mite from Fur Skins.

Cheese-mites.

Vagrant-mite.

Acari from Rabbit, with Larva, \$1.

Itch Insect from Cat, with Larva, \$1.

Mange Insect from Horse, Sexes and Larva, \$1.50.

Face Insect, Demodex folliculorum \$1.

Crab-louse, Pediculus pubis, \$1.

Body-louse, Pediculus vestimenti, \$1.

Head-louse (sexes), Pediculus capitis.

Ovum of Head-louse on hair in situ.

Head-louse (sexes) with ovum on hair, \$1.50.

Harvest-bug, Trombidium Autumnale, \$1.

Trichina Spiralis, Human, in the Cyst, and separated therefrom.

Trichina Spiralis in Pork and Rat.

Head of Cysticercus from Hare.

Cysticerci from Rabbit and Pike-fish.



Ascarid and Toenia from Lion and other animals.  
Sarcina Ventriculi, Human.  
Echinococci from Cyst and Ova.  
Pro-glottis of Toenia Solium (sexual organs).  
Entozoa from Cuttle-fish and from Horse.  
Parasites from various Fish.

### Whole Insects, etc.

50 cents to \$1.50 each.

About twice the number of Species here named are usually in stock, and the Sexes of some can be supplied.  
Aphis rosae, huxi and others.  
Ant. Formica rufa and others.  
Blossom-fly, Anthomia pluvialis.  
Bronze-fly, Pachygaster ater.  
Biting Field-fly, Siomoxys calcitrans.  
Biting (Ciegg) Fly, Hoematopata pluvialis.  
Black-tip Fly, Ortalis vihrans.  
Cattle-fly, Muscacorvina. Bomhilus major.  
Cora-fly, Empis livida. E. stereorea.  
Crane-fly, Tipula oleracea.  
Dunghill-fly, Spherocera subaltans.  
Dung-fly, Scatophaga merdaria and others.  
Drone-fly, Helophillus pendulus.  
Flirt-fly, Sepsis punctum.  
Fautail-fly, Dolichopus æneus.  
Fungus-fly, Mycetophila various.  
Gnat, Culex pipiens (Sexes), the Male.  
Gnat, Window, Rhyphus fenestralis.  
Gnat, Ringed, Culex annulatus.  
Gnat, Plumed, Chironomus plumosa.  
Gnat, Winter, Trichocera, hiemalis.  
Gnat, Wood, Sciara hrunipes.  
Grass-fly, Opomyza germinationis.  
Hairy-fly, Bibio Marci B. Johannis.  
Hawk-fly, Dioctria rufipes.  
Herbage-fly, Platypalpus fasciatus.  
His grace, Calobata petronella.  
House-fly, Musca domestica.  
Ichneumon-fly, Ophion luteum.  
Lace-Wing Fly, Chrysopa perla.  
Leaf Insect, Phyllophorella acerina.  
Mayflower-fly, Dilophus.  
Merrydaucer, Hilara maura.  
Mosquito, Culex Mosquito, various.  
Midge, Psychoda.  
Mud-fly, Borhorus longipennis.  
Marsh-fly, Tetanocera aratoria.

Marsh Crane-Fly, Phycoptera.  
May-fly, Ephemera vulgata.  
Nettle-fly, Platystoma seminativionis.  
Pearl-fly, Stalis lutarius.  
Scorpion-fly, Panorpa communis.  
Shadow Watcher, Syritta pipiens.  
Snipe-fly, Leptis scolopacea.  
Snout-fly, Rhingea campestris.  
Saw-fly, Allantus scolopacea.  
Thrips, Phlaeothrips coriaceus.  
Vinegar-fly, Drosophila celularis.  
Unicorn-fly, Odontocera denticornis.  
Wasp-fly, Syrphus ribesii.  
Window-fly, Phomaruspes.  
Centipede, Lithobius forcipatus.  
Millipede, Geophilus electricus.  
Skin of Caterpillar, many species.  
Skin of Silkworm, Bombyx mori.  
Corn bug, Miriserraticus.  
Cuckoo-spit, Aphrophora spumaria.  
Collared Florist, Anthohium torquatum.  
Cardinal beetle, Pyrochroa rubens.  
Beetle, Cercopais sanguinolenta.  
Earwig, Forficula auricularia.  
Frog-hopper, Amphlycephalus viridis.  
Grasshopper, Locusta viridis.  
Glow-worm, Lampyrus, noctilua (Sexes).  
Grass-flea, Thyamis femoralis.  
Lady-bird, Coccinella, variabilis, etc.  
Parsnip-beetle, Anaspis melanopa.  
Pond-beetle, Lactophilus minutus.  
Mud-beetle, Hyphydrus ovatus.  
Marsh-flea, Delphax lineata.  
Raspberry-beetle.  
Soldier-beetle, Telephorus melanurus.  
Sailor-beetle, Halipus lineatocollis.  
Scissor-bug, Capsus planticornis.  
Thistle-beetle, Crepidodera ferruginea.  
Wood-beetle, Leptura levis.  
Water-beetle, Hygrotus elegans.  
Water-hug, Corixa fossarum.  
Water-boatanau, Notonecta glauca.  
Water-scorpion, Nepa clineata.  
Pond-skater, Gerris lacustris.  
Ditch-skater, Vellia rivulorum.  
One-clawed Water-hug, Naucoris cimicoides.  
Tingis, Larva, Pupa, Imago, various.

Pseudo Scorpion, Chelifer cancrroides.  
Earth-mite, Trombidium.

### Spiders.

Bush-spider, Angelena nava.  
Garden-spider, Epeira diademata.  
Ground-spider, Lycosa agrastica.  
House-spider, Aranea labyrinthis.  
Harvest-spider, Phalangium cornutum.  
Hunting-spider, Drassus luciferus.  
Shepherd-spider, Opilio.  
Water-spider, Argyroneta aquatica.  
Water-wolf, Dycosa aquatica.

### Larva and Pupa

Pupa of Water-boatanau.  
Larve of Ant-lion, Myrmelio formicarius.  
" Cardinal-beetle, Pyrochroa coccinea.  
" Dragon-fly, Ermine-moth.  
" May-fly, Lace-wing Fly.  
" Water-beetles, various, and Pupa of Gnat, In Fluid.  
" Flea, House and Blow-fly.  
" Bot-fly in Egg, on hair of Horse.  
" Staphylinus, Devil's Coachhorse.  
" Lady-bird, Coccinella, also Pupa.  
" Click-beetle (Wireworm).

### Parts of Insects.

30, 50 and 60 cents each. \$3.00 to \$6.00 per dozen.  
Antennae of Cockchafer, sexes, House-fly and Blow-fly. Moths, Gnat, sexes.  
Head of Butterflies and Moths, Crane-fly, Gnat, Mosquito (Lancets), Cockchafer, Crane-fly, Dragon-fly, House-fly, Humble-bee, Butter-fly.  
Beetle, prepared to show multiplied images reflected from facets of Cornea.  
Gizzard of Dytiscus, Grasshopper, Katydid, Cricket, Flea.  
Stomach of Beetle, Blow-fly.  
Foot of Caterpillar.  
Leg and Foot of Blow-fly, Drone-fly, Dung-fly, Dytiscus, Frog-hopper, Gyrinus, Honey-bee, Hawk-fly, Hornet, Ophion, Pearl-fly, Saw-fly, Spiders, various, Wasp.  
Mouth and Jaws of Wasp Spiders.  
Feathered Oar of Corixia Dytiscus.  
Expanding Paddle Gyrinus.  
Lancets of Flea, Bed-bug, Gad-fly, Mosquito, Gnat.

Ovipositor of Cuckoo-spit, Katydid, Cricket, Crane-fly, Blow-fly, Drone-fly, Dragon-fly, Saw-fly, Frog-hopper, Corn-bug.

Proboscis or Tongue of Butterfly and Moth, Honey-bee, Humble-bee, Blow-fly, House-fly, Cricket, Hawk-fly, Drone-fly, Rhingia.

Reproductive Organs, Male Wasp, Hornet.

Scales from Wings of Death's Head Moth, Oak-egger, Cloth Moth, Paris Butterfly, Fritillary, Giant Silk-moth, Japan and many others.

Spinneret of Silkworm, Garden-spider.

Skin of Caterpillar, Chrysalis, Silkworm, Garden-spider.

Spiracles of Blow-fly, Drone-fly, Cockchafer, Dytiscus, Privet Caterpillar.

Sting of Bee, Hornet, Wasp With poison Gland, \$1.50.

Tail of Dolichopus Aeneus.

Tracheae of Silkworm, Blow-fly, and ultimate ramification in stomach of Bee, \$1.00, in nerves of Caterpillar, \$1.00. Intestines of Blow-fly.

Halteres of Crane-fly, Rhingia, Drone-fly, Blow-fly.

Wings of Bee, with hooklets, Hornet, with hooklets, Wasp, with hooklets, Blow-fly, Butterflies, various, Moths, various, Mosquitoes, Elytron of Corixa fossarum, Water-beetles, various.

Winglet of Blow-fly.

Anatomy of Blow-fly, 12 slides in a box, \$7.00.

#### Hairs (Superficial View).

From African Squirrel, Albino Mole, English Mole, Beaver (felted surface), Bat, Australian; Bat, Indian; Bat, British; Caterpillar of Tiger-moth, Caterpillar Vapor-moth, Bird-catching Spider, Mouse, Brown; Mouse, Shrew; Mouse, White; Mole, Onithorhynchus paradoxus, Ring-tailed Monkey, Spider-monkey, Reindeer (body) cellular, Reindeer (legs) bristly, Russian Sable, Rat, Wild Rabbit, Squirrel, Seamouse, Seal, Falkland Islands, Sea-otter, Falkland Islands; Fetal Hair, Imbricated surface.

#### Hairs (Transverse Sections).

From Head of Man, Ant-eater, Peccary, Eyelash of Whale, Tail of Asiatic Elephant, Tail of African Elephant, Tail of Giraffe, Tail Hippopotamus, Tail of Siberian Mammoth, Whisker of Wild Cat, Whisker of Lioness, Whisker of Walrus.

### Sections of Bones, Teeth and Shells.

50, 60 and 75 cents each; \$5 to 7.50 per dozen.

#### Sections of Bones.

Bone of Albatross, Armadillo, Boa Constrictor, Chimpanzee, Crocodile, Eagle, Elephant, Flying-fish, Gorilla, Grampus, Lion, Rhinoceros, Saw-fish, Silurus, Toad, Turtle, Walrus, Whale.

Clavicle (transverse), Human.

Femur (transverse), Human.

Femur (vertical), Human.

Skull, parietal and frontal, Human.

Earthy Matter of Femur.

Animal " "

Fetal Bone, Femur (transverse).

Fetal Bone, Femur (vertical).

A series of (12) slides, completely illustrating the Structure and Growth of Bone, Cartilage, etc., \$7.50.

#### Fossils

Fossil Bone of Man, Mastodon, Irish Elk, Crocodile, Dugong, Ichthyosaurus, Iguanodon, Pterodactyl, Whale, Dinornis giganteus, Sections of Teeth of Sharks, etc.

Bones and Teeth of Fish, in situ, from Northumberland Coal Shale.

Coprolites, from Lyme Regis.

#### Sections of Teeth.

From Alligator, Cat-fish, Deer, Dolphin, Dugong, Hippopotamus, Fox, Hare, Horse, Human, (various), Myliobatis, Zygozatis, Porcupine, Rhinoceros, Rabbit, Rat, Ox, Saw-fish, Silurus, Sheep, Shark, Sperm Whale, Stenodus, Tiger, Wild Cat, Walrus, Ossification of pulp cavity in Tooth of Elephant.

#### Sections of Shells, etc.

Egg of Emu, Cassowary.

Egg of Ostrich (Superficial and vertical).

Egg of Guinea Fowl, Goose.

Pearl Oyster (avicular marginifera).

Haliotis splendens.

Pinna marina (vert. sec. and surface).

Corb (vertical and superficial section.)

Cyprea annulus, Cerithium atratum.

Meleagrina margaritifera.

Oliva Peruviana.

Ricnula ricinus (long. sec.)

Mitra cucumerina (long. sec.)

Cerithium atratum (long. sec.)

Terebratula Australis.

Orbiculina complanata.

Synderolima spenglerii.

Foraminifers, in chalk formation (sec.)

Hydrophora, in chalk formation (sec.)

Hydrophora rigida, in chalk formation (sec.)

Seriatopora hystrix, in chalk formation (sec.)

Section of White Coral, Red Coral.

Section of Pearls from River Tay.

### Spicules from Zoophytes, Sponges, etc.

30, 50, 60 and 75 cents each. \$3, \$4.50, \$6 and \$7.50 per dozen.

Alcyonium digitatum.

Spongilla Meyeni, Ceylon.

" plumosa, Bombay.

Glass Rope Sponge (Hyalonema mirabile).

Geodia Barretti, Grantia compressa.

Hymedesia Johnsoni.

Halichondria Griffithsii.

Echinomastix Listeri.

Tethys cranium. Tetras

lyncurium.

Gemmules of Sponge Geodia.

Section of Smyrna Sponge.

British Spongilla and Spongilla Meyeni, with spicula in situ.

Fibres from Euplectella speciosa.

Spines of Spatangus.

Spicula of Gorgonias, various.

Ambulacral disks from Echinus.

Plates and Hooks (Astrophyton Linkii).

Plates and Hooks, Synapta (digitata).

Plates and Hooks, Synapta (inherens).

Wheel Plates, Chirodota (violacea).

Wheel Plates, Chirodota (inherens).

Cutaneous Plates Holothuria (floridana).

Cutaneous plates (from Tongataboo).

Spicules of Xenia.

Spicules of Renilla Americana.

Spines of Brissopsis.

Spines of Young Starfish.

Starfish.

Seven-Pointed Spicules of Sponge.

### Foraminifera and Polycistina.

30, 50, 60, and 75 cents each.

\$3, \$4.50, \$6 and \$7.50 per dozen.

Foraminifera, Adriatic Sea.

" Bay of Bengal.

" The Levant.

" The River

" Nene.

" The Red Sea.

" Cuxhaven.

" Gulf Stream.

2,000 fathoms.

Foraminifera, Samoa.  
 " Campeachy Bay.  
 " Zanzibar.  
 " St. Vincent, Australia.  
 " Indian Ocean, 2,200 fathoms.  
 " Persian Gulf, 504 fathoms.  
 " Coast of Malabar, 188 fathoms.  
 " Atlantic Ocean, two miles.  
 Polycistina, Barbadoes.  
 " Bermuda.  
 " Nicobar.  
 " Nankoori.  
 " Mondairi, Italy.  
 Specimens collected by the Challenger Expedition through Dr. Carpenter.

**Sections of Minerals, Coals and Fossil Woods.**

60, 75 cents and \$1 each. \$6, \$7.50 to \$10 per dozen.

Minerals—  
 Moss Agates, various.  
 Basalt—Giant's Causeway, Fingal's Cave, Staffordshire, Carbonate of Lime, Stalactite.  
 Flint, with various organic remains, Spicules, Sponges, Corals, Xanthidia (or Sporangia) and Shells.  
 Granite from Aberdeen, Peterhead, Killarney, Ireland; Guernsey, "Greenland's Ice Mountains," Cornwall, Cheesewring, Greywack from Labrador.  
 Syenite from Mt. Sorrels, Sarcophagus in Gt. Pyramid.  
 Limestone, St. Vincent's Rock.

Limestone, Magnesium, Dudley; Mountain, Scotland; Upper Silurian, Dudley; Oolitic, Clifton and Bath, Eucrinital Marble, Foundation Stone of Old Blackfriars Bridge, Himalaya Mountains, Lyme Regis and Portland, Niagara Falls.  
 Many of the above contain interesting organisms—Foraminifera, Echini, Shells, Coral, Spicules, Nummulites, etc.  
 Lapis Lazuli, Lepidolite, Madrepores, various.  
 Black Marble.  
 Eucrinital Marble, Derbyshire.  
 Marble, Carrara, Temple of Ephesus.  
 Green Malachite from Russia.  
 Blue Malachite from Australia.  
 New Red Sandstone, Cumberland.  
 Old Red Sandstone, Scotland.  
 Pitch-stone, Isle of Arran.  
 Red Porphyry, Egypt.  
 Brown Porphyry, Sweden.  
 Heliotrope, Bloodstone, Sun-stone.  
 Serpentine, Red and Green.  
 Water Cells in Quartz Rocks from Norway and Mont Blanc.  
 Various Organisms from the Chalk, Chalk Marl and Gault.  
 Sections of Coal.  
 Transverse, Vertical and Radial.  
 Derbyshire, Newcastle, Yorkshire, Scotland, China, Australia, America, Hereford, on the Black Sea, Tertiary Coal, Bovey Tracey.  
 Cannel or Parrot Coal.  
 Torbane Hill Coal.

Sections of Jet (Whitby).  
 Sections of Fossil Wood.  
 Endogens from Antigua, etc.  
 Palm, vertical and transverse.  
 Palm, from West Indies and Ceylon.  
 Fern, stem and root.  
 Conifers and Exogens from Derbyshire, Portland, Lough Neagh. Unknown forms from Lancashire Coal.  
 Fibrous Fossil Wood, Egypt.  
 Opalized Wood, Tasmania.  
 Fossil Sponge.  
 Fossil Coral, Acervularia.  
 Pentagon.  
 Pentacrinus Basaltiformis.

**Test Diatoms.**

Mounted Dry or in Balsam, as preferred, 75 cents each; \$7.50 per dozen.  
 Amphipleura Pellucida.  
 Cymatopleura Elliptica.  
 Fragilaria Capucina.  
 Frustulia Saxonica.  
 Navicula Cuspidata.  
 Navicula Rhomboides.  
 Grammatophora Marina.  
 Grammatophora Subtilissima.  
 Hyalodiscus Subtilis.  
 Hyalodiscus Stelliger.  
 Nitzschia Sigmoidea.  
 Nitzschia Obusca Var. Sculpelliformis.  
 Pleurosigma Angulatum.  
 " Attenuatum.  
 " Acuminatum.  
 " Arstuaril.  
 " Balticum.  
 " Formosum for magigantea.  
 " Hippocampus.  
 " Spenceril.  
 Rhizosolenia Styliformis.  
 Serratella Unipunctata.  
 Surirella Gemma.  
 Triceratium Favus.

**Möller's Diatomaceen and other Typen Plattes.**

PRICE.

Möller's Diatomaceen Typen Platte, No. 1, comprising 392 distinct species and varieties, being types of 17 Genera of the Order Diatomacea. In morocco case, with bound Catalogue..... \$30.00  
 Möller's Diatomaceen Typen Platte, No. 2, is a smaller collection of One Hundred Diatoms, by the same artist, arranged on the same plan in one quadrangle, accompanied by a printed Catalogue, and quite equal in quality to the larger collection. 12.00  
 Möller's Diatomaceen Typen Platte, No. 3, is similar to No. 2, but has the name of each Diatom photographed beneath it, so that specimen and name can be seen at one view..... 12.50  
 Möller's Diatomaceen Probe Platte is a collection of 20 Diatoms, by the same artist, arranged in a single line, on a slide of the usual size—3 by 1 inch—in Balsam, and graduated, according to their value as test objects. In a neat morocco leather case, with descriptive list..... 6.00  
 Möller's Diatomaceen Probe Platte, the same as No. 4, but mounted dry..... 7.50  
 Möller's Typen Platte of the Holothuridae, containing 34 species, mounted on a slide of usual size—3 by 1 inch. In morocco case, with descriptive Catalogue..... 15.00  
 Möller's Typen Platte of the Echinoides, on slide 3 by 1 inch. In morocco case, with Catalogue..... 7.50

**Fasoldt's Bands of Test Lines.**

These superb rulings are believed to be superior to any ever made, and since the death of Mr. Nobert are the only procurable ones that can be depended upon for accuracy and uniformity of spacing. They are ruled on thin glass and mounted in brass frames, 3 by 1 inches.

PRICE.

18 Bands, 5,000 to 125,000 to the inch..... \$15.00  
 27 " " " 250,000 " "..... 25.00  
 36 " " " 500,000 " "..... 50.00  
 41 " " " to 1,000,000 " "..... 100.00  
 19 " 100 to 6,000 " millimetre..... 18.00

## Miscellaneous Test Objects.

50, 60 and 75 cents each. \$4.50 to \$7.50 per dozen.

Scales of <i>Lepisma saccharina</i> , <i>Podura plumbea</i> .	Scales of White Cabbage (large) — <i>Pontia brassica</i> , Do. (small) — <i>Pieris rapae</i> .	vestimenti, Gnat <i>Culex pipiens</i> , dry.
" <i>Lepidocyrtus curvicolis</i> , the Original by the late Richard Beck.	" Green Forester — <i>Proctos taticus</i> .	Wing of Gnat, in balsam & dry
" Greenhouse <i>Degeeria</i> , <i>Templetonia nitida</i> , <i>Macrotoma major</i> , <i>Petrobius maritimus</i> .	" Azure Blue — <i>Polvomatous argiolus</i> .	Hair of Indian Bat, Australian Bat, Indian Mouse, Larva of <i>Dermestes</i> .
" Meadow Brown — <i>Hipparchia janira</i> .	" Brazilian Blue — <i>Morpho menelaus</i> .	Proboscis of Blow-fly, <i>Pygidium</i> of Flea.
	" Brazilian <i>Amathusia Horsfieldii</i> , <i>Cloth-moth</i> — <i>Tinea</i>	Ultimate Fibrous Tissue of muscle of Pig (Powell's Test). \$1.00.
		Disk of Deal (Dr. Carpenter's Test for Achromatism).
		Section of Spine of <i>Echinus</i> (Dr. Carpenter's Test for Flatness of Field). \$1.00.

## A SELECTION OF SOME OF THE BEST KNOWN

## MICROSCOPICAL OBJECTS.

Photographed as Slides for the Lantern, with Readings.

★ These figures denote the number of diameters to which the specimen is magnified upon the slide.

- 1 Human Flea — *Pulex irritans*. Male, X 20 ★
- 2 Human Flea — *Pulex irritans*. Female, X 15
- 3 Flea of Dog — *Pulex canis*. — Male, X 20
- 4 Flea of Dog — *Pulex canis*. Female, X 15
- 5 Flea of Sand Martin. Male, X 14
- 6 Flea of Mole, without eyes. Female, X 18
- 7 Proboscis of Blow-Fly — *Musca vomitoria*, X 25
- 8 Proboscis of Blow-Fly, minute structure, X 180
- 9 Wing of Blow-Fly, X 7
- 10 Wing of Blow-Fly, minute structure, X 180
- 11 Portion of Eye of House Fly — *Musca domestica*, X 180
- 12 Foot of House Fly — *Musca domestica*, X 100
- 13 Spiracle of Blow-Fly, X 80
- 14 Proboscis of Drone Fly — *Eristalis tenax*, X 30
- 15 Ovipositor of Drone Fly, X 7
- 16 Marsh Fly, X 4
- 17 Head and Antennae of Crane Fly, X 10
- 18 Sheep Tick — *Melophagus ovis*, X 9
- 19 Saw Fly — *Tenthredo variata*. Female, X 2½
- 20 Saws of Saw Fly, X 20
- 21 Anterior Leg and Foot of Saw Fly, X 25
- 22 Minute Structure of Wing of Saw Fly, X 180
- 23 Sting of Hornet with Poison Bag, X 7
- 24 Sting of Honey Bee — *Apis mellifica*, X 20
- 25 Tongue of Honey Bee — *Apis mellifica*, X 12
- 26 Tongue of Honey Bee, minute structure, X 106
- 27 Tongue of Mason Wasp, X 20
- 28 Anterior Wing of Humble Bee, X 4
- 29 Posterior Wings of Bees, showing Hooklets, X 180
- 30 Black Ant — *Formica nigra*, X 10
- 31 House Ant, X 20
- 32 Water Beetle — *Hyphidrus ovatus*. Female, X 8
- 33 Soldier Beetle — *Telephous*, X 4
- 34 Larva of Lady-Bird Beetle — *Coccinella*, X 9
- 35 Spiracles of Water Beetle — *Aclius sulcatus*, X 35
- 36 Spiracle of Larva of Cockchafer, X 110
- 37 Spiracle of Cockchafer — *Melolontha vulgaris*, X 100
- 38 Tongue of Cricket — *Acheta domestica*, X 20
- 39 Gizzard of Cricket — *Acheta domestica*, H 35
- 40 Chirping File and Drum of Cricket, X 5
- 41 Human Bed Bug — *Acanthia lectularia*, X 9
- 42 Human Louse — *Pediculus vestimenti*, X 18
- 43 Human Head Louse — *Pediculus capitis*, X 20
- 44 Parasite of Domestic Fowl — *Liothem Pallidum*, X 30
- 45 Eggs of Parasite of Gibbon Monkey, X 35
- 46 Parasite of Emu, X 20
- 47 Parasite of Ostrich, X 14
- 48 Parasite of Dog, X 35
- 49 Parasite of Pig, X 15
- 50 Parasite of Horse, X 25
- 51 Aphid from Nettle, Male, X 35
- 52 Leaf Insect, X 50
- 53 Silkworm — Larva of *Bombyx mori*, X 2
- 54 Trachea of Silkworm, X 8
- 55 Trachea of Silkworm. Spiral structure, X 60
- 56 Larva of Vapourer Moth. Very young, X 20
- 57 Scaly true legs of young Larva of Vapourer Moth, X 100
- 58 Membranous false or prolegs of young Larva of Vapourer Moth, X 100
- 59 Larva of Vapourer Moth, — *Orgyia Antiqua*, X 3
- 60 Hairs of Larva of Vapourer Moth, X 11
- 61 Hairs of Caterpillar, from Monte Video, X 6
- 62 Antennae of Vapourer Moth, X 7
- 63 Scaly Leg of Larva of Butterfly, X 30
- 64 Membranous Leg of Larva of Butterfly, X 30
- 65 Antennae of Wood Leopard Moth — *Zeuzera Asculi*, X 8
- 66 Spracle of Larva of Puss Moth — *Cerura vinula*, X 25
- 67 Spracle of Larva of Privet Moth — *Sphinx Ligustri*, X 35
- 68 Wing Scales of Swallow-Tailed Butterfly.
- 69 Wing Scales of Death's Head Moth, X 35
- 70 Wing Scales of Butterfly — *Morpho*, Africa, X 35
- 71 Wing Scales of Butterfly — *Hipparchia Janira*, X 80
- 72 Wing Scales of Blue Butterfly — *P. Agriolus*, X 180
- 73 Spider, X 4
- 74 Garden Spider, very young, X 15
- 75 Mouth Organs of Spider, X 8
- 76 Legs of Various Spiders, X 7
- 77 Calamistrum on Leg of Web-Weaving Spider, X 35

- 78 Foot of Web-Weaving Spider, pectinate claws, X 80  
 79 Spinneret of Spider, X 30  
 80 Leg of Harvest Spider—Phalangium cornutum, X 10  
 81 Scorpion  
 82 Red Earth Mite—Trombidium, X 12  
 83 Chellifer, X 18  
 84 Parasite of Beetle—Gamasus Coleopratorum, X 35  
 85 Parasite of Bee, X 35  
 86 Parasite of Dog—Ixodes, X 12  
 87 Cheese Mites—Glyciphagus ciro, X 35  
 88 Tape Worm from Cat, X 9  
 89 Millepede—Geophilus, X 4  
 90 Young Sea Horse—Hippocampus brevisrostris, X 9  
 91 Palate of Garden Snail, X 25  
 92 Palate of the Trochus Zizyphinus, X 30  
 93 Palate of Neritina Virginica, X 30  
 94 Palate of Hallotis Tuberculata. Polarized, X 12  
 95 Hydrozoa—Eudendrium ramosum, X 30  
 96 Spine of Echinus. Trans. Sec., X 35  
 97 Skeleton of a Siliceous Sponge, Mycerina Squares, X 35  
 98 Spicules of Gorgonia Plexaura Flexuosa, X 30  
 99 Spicules of Synapta. Grouped, X 30  
 100 Challenger Soundings, 4,475 fathoms, Lat. 11-24 N. Long. 143-16 E., X 35  
 101 Soundings, 1,350 fathoms, Pacific Ocean, Lat. 21-1 S. Long. 57-25 E., X 35  
 102 Polycystina. Grouped, X 20  
 103 Foraminifera from March slit, X 35  
 104 Perforations in a Foraminifera Shell, X 180  
 105 Foraminifera. Brighton Chalk, X 20  
 106 Whalebone, Trans. Sec., Bottle-nosed Whale, X 14  
 107 Whalebone, Trans. Sec., White Whale, X 14  
 108 Whalebone, Trans. Sec., South Sea Whale, X 14  
 109 Hoof of Horse. Section, X 14  
 110 Horn of Rhinoceros. Trans. Sec., X 12  
 111 Horn of Rhinoceros. Long Sec., X 12  
 112 Horn of Bison. Trans. Sec., X 8  
 113 Stem of Hedge Maple. Trans. Sec., X 12  
 114 Stem of Clematis. Trans. Sec., X 15  
 115 Stem of Aristolochia latifolia. Trans. Sec., X 15  
 116 Stem of Pepper Plant. Trans. Sec., X 12  
 117 Stem of Wisteria. Trans. Sec., X 13  
 118 Stem of Sarsaparilla. Trans. Sec., X 12  
 119 Root of Sarsaparilla. Trans. Sec. Guayaquil, X 15  
 120 Root of Sarsaparilla. Trans. Sec. Valparaiso, X 15  
 121 Stem of Butcher's Broom—Ruscus aculeatus, X 10  
 122 Brazilian Wood. Trans. Sec., X 6  
 123 Brazilian Wood. Trans. Sec., X 30  
 124 Liana Genuta. Trans. Sec., X 24½  
 125 Calashash. Trans. Sec., X 15  
 126 Calashash. Long Sec., X 15  
 127 Plane Tree. Trans. Sec., X 35  
 128 Plane Tree. Long Sec., across Medullary Rays, X 35  
 129 Plane Tree. Long Sec., between Medullary Rays, X 35  
 130 Pith of Rice Paper Plant—Aralia papyrifera, China. Trans. Sec., X 35  
 131 Bread Fruit Tree. Trans. Sec., X 35  
 132 Stellate Hairs and Scales from Leaf of Durio zibethinus, X 35  
 133 Bamboo Cane. Trans. Sec., X 15  
 134 Cuticle of Cyclamen Atkinsii, showing Stomata, X 180  
 135 Kilarney Fern—Trichomenes radicans, X 10  
 136 Fructification of a Fern, X 7  
 137 Scales of a Fern—Goniophallium sepultum, X 18  
 138 Scales of a Fern. Grouped, X 14  
 139 Scales of a Fern, Grouped, Polarized, X 14  
 140 Algae—Polysiphonia fastigiata, X 35  
 141 Algae, Sphacelaria Setularia, X 35  
 142 Recent Diatoms—Arachnoidiscus Ehrenbergii, X 120  
 143 Fossil Diatoms from Mansfield Cliff, Barbadoes, X 80  
 144 Volvox Globator, X 35  
 145 Section of Cleopatra's Needle, X 12  
 146 Section of Ferruginous Goolite, from Dundry Hill, Bristol, X 9  
 147 Section of Oolitic Limestone, Clifton, Bristol, X 12  
 148 Section of Eocrinital Limestone, Clifton, Bristol, X 12  
 149 Section of Eozoon Canadense, X 12  
 150 Section of Stem of Plant in Coal. Sigillaria, X 4

## POLARISCOPE OBJECTS.

30, 50 and 60 cents each. \$3 and \$6 per dozen.

### Chemical Crystals.

- 1 Asparagine  
 2 Aspartic Acid  
 3 Bitartrate of Ammonia  
 4 Borax. Boracic Acid  
 5 Carbozotate of Potash  
 6 Carbonate of Lime, from Horse  
 7 Carbonate of Lime, from Boa-constrictor  
 8 Creatin. Cholesterolin  
 9 Chlorate of Potash  
 10 Chloride of Barium  
 11 Cinchonine  
 12 Cinchonidine  
 13 Citric Acid  
 14 Ferro-cyanide of potassium  
 15 Iodide of potassium  
 16 Iodo-disulphate of quinia  
 17 Murexide (Dichromatic)  
 18 Naphthaline  
 19 Nitro-prusside of Sodium  
 20 Oxalate of Lime  
 21 Oxalate of Ammonia  
 22 Oxalate of Chromium and Potash  
 23 Oxalic Acid  
 24 Oxalurate of Ammonia  
 25 Platino-cyanide of magnesia  
 26 Platino-cyanide of Barium  
 27 Platino-cyanide of Thallium  
 28 Palmose Quinidine. Santonine  
 29 Saligaline. Salicine  
 30 Strychnine. Sugar  
 31 Sulphate of Cadmium  
 32 " Nickel and Potash  
 33 " Copper  
 34 " Spiral form  
 35 " Copper and Magnesia

- 36 Tartaric Acid  
 37 Thionurate of Ammonia  
 38 Triple Phosphate, various forms  
 39 Urea. Uric Acid  
 40 Uric Acid from Boa-constrictor  
 41 Wine Crystals  
 42 Bitartrate of Potash

### Animal Substances.

- 1 Palate of Hallotis tuberculata, Limpet Patella vulgaris Nassa reticulata, Periwinkle, Trochus zizyphinus Whelk  
 2 Claw of Orang-outang, Lynx, Sloth, Lioness, Wild Cat, Fowl, Polar Bear, Seal  
 3 Finger Nail—Human. Cuttings  
 4 Toe Nail. Transverse Section

- 5 Corns of Elephants
- 6 " Human
- 7 Foot-pad of Dromedary, Cat
- 8 Hoof of Antelope, Elk, Pig, Ox, Mustang, Reindeer, Zebra
- 9 Horn of American Bison, Antelope, Brahmin Bull, African Rhinoceros, Indian Rhinoceros
- 10 Quill of Porcupine
- 11 Whisker of Walrus
- 12 Spines of Hedgehog
- 13 Cat's Tongue
- 14 Section of Cat's Tongue, nose and lip
- 15 Bone of Cattle-fish
- 16 Whalebone, Finland, Beluga Catodon
- 17 Embryo Oysters
- 18 Exuvium of Prawn
- 19 Teeth of Medicinal Leech
- 20 Tendon Achilles, human
- 21 Tendon of Ostrich
- 22 Leg of Dytiscus
- 23 Elytrove of Dytiscus
- 24 Skin, Human, (vertical section), Negro Scalp with incipient curl in roots of hair, Alligator, the Nile, Giraffe with hair, Lip of Calf with hair, Lip of Cat with hair, Nose of Cat, Eel with Scales in situ, Sole with Scales in situ, Synapta, Anchors in situ
- 25 Scales of Carp, Eel, Perch, Sole, Gudgeon and Mullet
- 26 Tail of Whitebait
- 27 Crystals of Carbonate of Lime, in Tail of Prawn and Shrimp
- 28 Plates from Skin of Halothuria
- 29 Anchors, etc., from Synapta
- 30 Hair, Human, white with age, Roots and Eyebrows. Shavings of Beard, Albino Girl, Infant, Young Lady's Eyelash, Gorilla, Brahmin Bull, Reindeer, Polar Bear, White Mouse, Persian Cat, Angora Goat, Mohair, Elephant's Tail, section

#### Stones and Minerals.

75 cents to \$1.00.

- 1 Actinolite, Aventurine
- 2 Agates, various
- 3 Asbestiform Serpentine
- 4 Carbonate of Lime
- 5 Carrara Marble
- 6 Gibraltar Rock
- 7 Granite, various localities
- 8 Labrador Feldspar
- 9 Jasper with Amethyst
- 10 Quartz Rock, various
- 11 Quartzite, Mount Blaue
- 12 Satin Spar. Sandstone
- 13 Selenites, various colors
- 14 Sulphate of Baryta
- 15 Zeolite from Giants' Causeway

#### Polariscope Objects Moving in Fluid.

- 1 Animal Substances Mixed

- 2 Actinolite
- 3 Brazilian Pebble Fragments
- 4 Crystalline Sulphate of Lime
- 5 Fibrous Sulphate of Lime
- 6 Rolling Stones, various
- 7 Young Oysters

#### Vegetable Substances.

- 1 Starch from Arrowroot, Calabar Bean, Colchicum autumnale, Potato, Oats, Rice, Sago, Palm, Tapioca, Tous les Mois, Ginger, Malze, Barley, Wheat
- 2 Section of Potato, Starch in situ
- 3 Cuticle of Leaf of Correa, Cardinals, Deutzia scabra, Eleagnus, Onosma taurica
- 4 Silicious Cuticles—From Araucaria imbricata, Bamboo cane, Sugarcane, Equisetum arvense, Dutch Rush, E. hymenale Indian Corn, Canaryseed, Husk of Rice Grain, Straw of Rice, Leaf of Wheat
- 5 Fibro Cells from Erides roseum, Oncidium bicoloratum
- 6 Scleriform vessels from Fern, Dicksonia Antarctica
- 7 Spiral vessels Rhubarb
- 8 Fern Scales, Cheilanthes Eckloniana, Elaphoglossum squamosum, Nothochlæna maranta, Nothochlæna levis
- 9 Stellate Hairs from Eleagnus
- 10 Wing of Seed of Ecremocarpos

#### Vegetable Fibers in Balsam.

- 1 Cotton, China-grass
- 2 Flax from Ireland and New Zealand
- 3 Hemp, Russia and Manila
- 4 Jute Fiber, Calcutta
- 5 Silk, Indian, Chinese
- 6 Silk, Italian, British
- 7 Wool, British, Australian
- 8 Pyroxylin (Gun Cotton)
- 9 Shoddy Fiber
- 10 Genuine Crinoline
- 11 Indian Muslin (Woven Wind)
- 12 Pineapple Muslins, Philippines
- 13 Finest French Cambric, \$10 per yard

#### Scales from Ferns.

- 1 Cheilanthes Eckloniana, C. elegans, Ceterach officinarum, Goniophlebium sephulturn, Nipholobus lingua, Nothochlæna levis, Nothochlæna crassifolia, N. Maranta, Elaphoglossum squamosum
- 2 Raphides in Cactus, Garlic, Hyacinth, Onion, Pear, Rhubarb, Water-lily

#### Algae, Desmidiaceæ, Fungi, etc.

30, 50, 60 and 75 cents each, \$3, \$4.50, \$5 and \$7.50 per dozen.

#### Algae, Hepaticaceæ, Desmidiaceæ, Muscaceæ.

- 1 Batrachospermum moniliforme, B. tenuissimum
- 2 Draparnaldea plumosum, Chaetophora
- 3 Spirogyra, Hydrodictyon, Rhizoclonium
- 4 Sphagnum cuspidatum in leaf and sections
- 5 Sphagnum cymbifolium
- 6 Hypnum abietinum and prelognum
- 7 Frustraria dilatata, Monium cuspidatum
- 8 Jungermania hyalina, Trichocolea tomentilla
- 9 Lepidozia reptans, Lophocolea bidentata
- 10 Micrasteria rotata, Volvox globator

#### Marine Algae, Coralline Polyzoa.

- 11 Bicellaria grandis, B. tuba
- 12 Calthamnion corymbosum and refractum
- 13 Calthamnion diaphnum, C. roseum
- 14 Ceramium ciliatum, C. pellucidum
- 15 Ceramium botryscarpum, C. diaphnum, C. acanthothomum
- 16 Dasya coelonea
- 17 Ectocarpus fasciculatus
- 18 Flustra avicularis, Griffithsia setacea
- 19 Notamia busaria
- 20 Thoa benli, Thoa nalecina
- 21 Cladophora rupestris, Balia calitricha
- 22 Polysiphonia parasitica, P. Brodiai
- 23 " P. bissoides, P. fibrillosa
- 24 " fibrillosa, P. fastigata
- 25 Plocamium vulgare
- 26 Ptilota plumosa and elegans

#### Capsules and Spores of Mosses.

- 27 Byrum capillare, Dicranum scoparium
- 28 Hypnum rubabulum, Tortula unguiculata
- 29 Funaria hygrometrica—Ovary in section

#### Thecae and Sporules of Ferns.

- 30 Pteris aquilina, Potypodium, Osmunda regalis

#### Fungi, Blight, Mould, Mildew.

- 31 Smut in Ear and Grain of Wheat
- 32 Bunt fungus in Corn Grains: Uredo foetida

- 33 Rust or Corn Mildew, *Puccinia graminis*
- 34 Red Rust, *Trichobasis rubigo-vera*
- 35 Kels in Wheat, *Vibrio tritici*
- 36 Timber fungus, *Arcyria nutans*
- 37 " " *Stemonitis fusca*
- 38 Spiral fungus, *Trichia chrysosperma*
- 39 Star fungus, *Asterosporium Hoffmanni*
- 40 Chain-brand, *Xenodochus carbonarius*
- 41 Mould from Jam, *Aspergillus umbellatus*
- 42 Fungus on Pepper Plant, *Aspergillus candidus*
- 43 Spores of Yeast Plant
- 44 Section of Truffle Tuber cibarum

# Vegetable Preparations.

30, 50 and 75 cents each ; \$3 to \$6 per dozen.

## Sections of Woods, Stems, etc.

The letter *a* indicates that Transverse, Vertical and Radial Sections are on one Slide

- 1 *Arancaria excelsa, a*
- 2 Apple-tree, *Pyrus malus, a*
- 3 Asparagus, *Asparagus officinalis*
- 4 *Aristolochia siphon, Ornithocephalus*
- 5 Baobab-tree, *Adansonia digitata*
- 6 Berberry, *Berberis vulgaris*
- 7 Beech, *Fagus sylvatica, a*
- 8 Brake-fern, *Pteris aquilina*
- 9 Brava, *Cissampelos Pereira*
- 10 Burdock, *Articum lappa*
- 11 Butcher's Broom, *Ruscus aculeatus*
- 12 Cane, Bamboo, *a*
- 13 Bambusa, *a, Malacca, Calamus scipionum, Rattan, Calamus rotang, a, Sugar, Saccharum officinarum, a, Wanghae*
- 14 Catalpa, *syriacaefolia, a*
- 15 Cedar of Lebanon, *Cedrus Libani, a*
- 16 Cherry-tree, *Cerasus communis, a*
- 17 Cinnamon, *Cinnamomum Zeylanicum*
- 18 Chili Pine, *Araucaria imbricata, a*
- 19 Coconut Palm, *Cocos comosa*
- 20 Cork-tree, *Quercus suber, a*
- 21 Cutleya Leopoldii
- 22 Dendrobium nobile, speciosum
- 23 Dog-rose, *Rosa canina*
- 24 Dragon-tree, *Dracaena ferrea*
- 25 Date-palm, *Phoenix humilis*
- 26 Elder, *Sambucus nigra, a*
- 27 Fennel, *Foeniculum officinale*

- 28 Fig-tree, *Ficus carica*
- 29 *Gesnera grandis*
- 30 Gum-tree, *Eucalyptus, a*
- 31 Guttu-Percha Tree, *Isosandra gutta, a*
- 32 Grape-vine, *Vitis vinifera*
- 33 *Hibiscus Africanus, a*
- 34 Ivy, *Hedra helix*
- 35 India-rubber, *Ficus elastica*
- 36 Jasmine
- 37 *Jasminum officinale*
- 38 Lavender, *Lavandula vera*
- 39 Lace Bark, *Lagetta lintearia, a*
- 40 Land Rush, *Juncus communis*
- 41 Larch, *Larix, a*
- 42 Larix Europaeus, *a*
- 43 Lemon-tree, *Citrus limonum*
- 44 *Magnolia grandiflora*
- 45 Mahogany, *Swietenia mahagoni, a*
- 46 Maple, *Acer campestre, a*
- 47 *Mimosa Nilotica*
- 48 Mulberry, *Morus Nigra, a*
- 49 *Miltonia cuneata*
- 50 Mistletoe, *Viscum album*
- 51 Oak, *Quercus pedunculata, a*
- 52 Orange-tree, *Citrus aurantium, a*
- 53 Pampas-grass, *Gyntherium argenteum*
- 54 Passion-flower, *Passiflora quadrangularis*
- 55 Pepper (Australia), *Piper alba*
- 56 Pepper (Malacca), *P. Nigrum*
- 57 Pear-tree, *Pyrus domestica*
- 58 Pine, *Pinus strobus, a*
- 59 Pine-apple, *Ananas lucida*
- 60 *Pilea Smilacifolia*
- 61 Plane-tree, *Platanus Occidentalis, a*
- 62 *Sansevieria Zeylanica*
- 63 Sarsaparilla, *Smilax officinalis*
- 64 Satin-wood, *Chloroxylon Swietenia*
- 65 Screw-pine, *Pandanus odoratissimus*
- 66 Sea Rush, *Juncus maritimus*
- 67 Sunflower, *Helianthus annuus*
- 68 Sandal-wood, *Santalum album, a*
- 69 Tea-tree, *Lycium barbarum*
- 70 Traveler's Joy, *Clematis vitalba*
- 71 Upas (Java), *Antiaris toxicaria, a*
- 72 Water-plantain, *Alisma plantago*
- 73 Water-lily, *Nuphar luteum*
- 74 Walnut, *Juglan regia, a*
- 75 Wellingtonia, *gigantea, a*
- 76 Willow, *Salix alba, a*
- 77 Yew, *Taxus, baccata, a*
- 78 Section of Petiole of Arum, Cinnamon, Date-palm, India-rubber, Oleander
- 79 Bulb of Orchid, sections
- 80 Pith of Rice Paper-tree
- 81 Root of Wellingtonia gigantea
- 82 Root-fern, *Pteris aquilina*

- 83 Roots of various Trees
- 84 Bark " " "

## Pollens, Cuticles, etc.

30, 50 and 60 cents each. \$3.00, \$5.00 and \$6.00 per dozen.

## Pollens.

- 1 From *Cobaea scandens*. (Eriothera, Convolvulus, Geranium, Hollyhock, Lily, Nasturtium, Flax, Lobelia, Cuphea platycenta, Mallow, Passion-Flower, Arum, Yucca, Vegetable Marrow, Portugal Pine.

## Sections of Hard Tissues.

- 2 Betel-nut Palm, *Areca pumila*
- 3 Vegetable Ivory nut
- 4 Cuticle of ditto, Surface and Vertical Section
- 5 Shell of Cocoa-nut, Brazil-nut, *Coquilla-nut, Attalea funifera*, Mexican Gourd, *Citricubita pepo*
- 6 Stone of Apricot, Damson, Peach
- 7 Transverse Section of Cherrystone, with separate elementary particles, 2s
- 8 Filaments from Stamens of *Tradescantia*
- 9 Fructification on Fronds of various Ferns

## Sections of Seeds and Fruit.

- 10 Bitter Almond, Young, unripe Orange
- 11 Hemlock-seed, Coriander, Coffee, Pepper, Wheat, Parsley, Wild Parsley
- 12 *Colomia-seed*, to show development of Spiral Vessels in fluid, 10c. packet
- 13 Cuticles of Cherry, Plum, Rhubarb, of Leaf, Wild Mustard, Ivy, Fern
- 14 Cuticles of Petals from Geranium, Peony, Pansy, Fritillaria, Nasturtium, Verbena
- 15 Stomata in Cuticle of Orchid, Iris, Lily, Aloe, Ivy, Yucca, Peony, Box, Tritoma uvaria, House Leek
- 16 Hairs from Leaf of Pansy, Groundsel, Blanket Plant, Tobacco, Lavender, Moss-rose, Sweet-briar, *Tillandsia argentea*
- 17 Spiral Vessels, *Colomia-seed*, Rhubarb
- 18 Compound Vessels from *Mymphae edulis*
- 19 Spiro-annular Vessels, *musa paradisica*
- 20 Scleriform Vessels from Various Ferns

## MECHANICS, HYDROSTATICS, &C.

We desire to call special attention to the large lists of Educational and Scientific Slides, more especially those on the phenomena of Heat, Light, Sound, Electricity, etc., etc. We do not carry all of these in stock; yet we can supply any or all of them in less than six weeks from date of order. Many of them have to be imported.

- |   |   |   |
|---|---|---|
| 1 Action and Reaction                                 | 44 Crystallization, No. 6.                              | 76 Centrifugal Force apparatus                                |
| 2 Measurement of force                                | 45 Anorthic System                                      | 77 Centrifugal Force, Oh-                                     |
| 3 Parallelogram of Forces, Diagram                    | 46 Crystallization, Hemihedry                           | 78 Centrifugal Force, Steam Engine Governor                   |
| 4 Parallelogram of Forces, Experimental demonstration | 47 Gravity shown by tension of a string                 | 79 Free axes of rotating bodies                               |
| 5 Parallelogram of Forces, The "knee joint"           | 48 Direction of Gravity, Plumb-line                     | 80 Foucault's Gyroscope                                       |
| 6 Composition and resolution of Forces                | 49 Plumb-line, Vertical to fluid surface                | 81 Diagram of motion of simple pendulum                       |
| 7 Parallel Forces, The Arithmetical Lever             | 50 Convergence of verticals toward center of the earth  | 82 Diagram of harmonic curve                                  |
| 8 Pressure of wind on sails of ship                   | 51 Attraction, Cavendish Experiment                     | 83 The pendulum, Time of vibration not dependent on amplitude |
| 9 Equilibrium of two forces                           | 52 Center of Gravity                                    | 84 The Pendulum, Verification of laws                         |
| 10 The Pulley   | 53 Center of Gravity, Experimental determination, No. 1 | 85 Borda's pendulum, No. 1                                    |
| 11 The Compound Pulley, No. 1                         | 54 Center of Gravity, Experimental determination, No. 2 | 86 " " " No. 2  |
| 12 The Compound Pulley, No. 2                         | 55 Centers of Gravity, Examples, No. 1                  | 87 Cycloidal pendulum   |
| 13 Simple Levers, (The three orders)                  | 56 Centers of Gravity, Examples, No. 2                  | 88 Conical pendulum   |
| 14 The Lever, 1st order, No. 1                        | 57 Different positions of equilibrium, No. 1            | 89 Inverted pendulum  |
| 15 The Lever, 1st order, No. 2                        | 58 Different positions of equilibrium, No. 2            | 90 The Metronome  |
| 16 The Lever, 2d order, No. 1                         | 59 Stable and unstable equilibrium                      | 91 Application of the pendulum to clocks, No. 1               |
| 17 The Lever, 2d order, No. 2                         | 60 Examples of equilibrium, No. 1                       | 92 Application of the pendulum to clocks, No. 2               |
| 18 The Lever, 3d order, No. 1                         | 61 Examples of equilibrium, No. 2                       | 93 Foucault's pendulum experiment                             |
| 19 The Lever, 3d order, No. 2                         | 62 The Balance, Ordinary Scales                         | 94 Compound pendulum (Blackburn)                              |
| 20 Wheel and Axle                                     | 63 The Balance, Center of Suspension                    | 95 Tisley's Compound pendulum apparatus                       |
| 21 The Windlass                                       | 64 The Chemical Balance                                 | 96 Curves traced by compound pendulum apparatus               |
| 22 Inclined Plane                                     | 65 The Chemical Balance, The Beam                       | 97 Lissajous' curves of Compound Harmonic vibrations          |
| 23 Apparatus demonstrating laws of Inclined Plane     | 66 Vacuum Balance of Standards Department               | 98 The Vernier  |
| 24 The Screw  | 67 Leaning Tower of Pisa                                | 99 Spherometer and Micrometer Screw                           |
| 25 Male and Female Screws                             | 68 Repetition of Galileo's Pisa Experiment              | 100 The Cathetometer  |
| 26 The Screw Jack                                     | 69 Fall of Bodies in Vacuum                             | 101 Equality of liquid pressure, Pascal's Law                 |
| 27 The Screw Press                                    | 70 Galileo's Experiment with inclined plane             | 102 Principle of the Hydraulic Press                          |
| 28 The Wedge  | 71 Attwood's Machine                                    | 103 The Hydraulic Press                                       |
| 29 Friction (Horizontal)                              | 72 Friction Pulleys of Attwood's Machine                | 104 Vertical upward pressure of liquids                       |
| 30 Friction Rollers, etc                              | 73 Morin's Machine                                      | 105 Pressure of liquids on bottom of containing vessels       |
| 31 Friction Dynamometer                               | 74 Parabolic curve                                      | 106 Liquid pressure, Hal-dat's apparatus                      |
| 32 Resistance to motion, Revolving fan                | 75 Parabolic path of Projectile                         | 107 Liquid pressure, Pascal's apparatus                       |
| 33 Resistance to motion, Parachute                    | 76 Action of Gravity independent of motion of the body  | 108 Hydrostatic Paradox                                       |
| 34 Elasticity, Stretched wire                         |   | 109 Hydrostatic Paradox, Pascal's experiment                  |
| 35 Elasticity, Spring balances                        |   | 110 Hydraulic tourniquet, "Barker's Mill."                    |
| 36 Elasticity of Torsion                              |   |   |
| 37 Porosity, Physical Pores                           |   |   |
| 38 Porosity, Filters                                  |   |   |
| 39 Crystallization, No. 1, Cubic System               |   |   |
| 40 Crystallization, No. 2, Pyramidal System           |   |   |
| 41 Crystallization, No. 3, Rhombohedral System        |   |   |
| 42 Crystallization, No. 4, Prismatic System           |   |   |
| 43 Crystallization, No. 5, Oblique System             |   |   |

## NORMAL ANIMAL TISSUES.

Photo-Micrographic Transparencies—Each slide is marked with the number of Diameters.

- |   |                                    |   |
|---|------------------------------------|---|
| <i>Human.</i>                                   | 8 Nerve Fibers                     | 18 Connective Tissue                    |
| 1 Spinal Cord, Entire Transverse Section        | 9 Voluntary Muscle, striped        | 19 Stomach Villi                        |
| 2 Spinal Cord, Ganglion Transverse Section      | 10 Involuntary Muscle, unstriped   | 20 " Cardiac end                        |
| 3 Spinal Cord, Nerve Cells, from Anterior Horn. | 11 Lung, Injected                  | 21 Fat Globules in Adipose Tissue       |
| 4 Spinal Cord                                   | 12 " Stained                       | 22 Stomach, Mucous Surface              |
| 5 Scalp, flat Section, with Hair Bulbs          | 13 Kidney, " trans section         | 23 Tongue, Trans section, with Papillae |
| 6 Sole of Foot, trans section, with Sweat Ducts | 14 Kidney, Injected, trans section | 24 Finger, Fetal, Long section          |
| Optic Nerve, trans section                      | 15 Pancreas, Injected              | 25 External Auditory Meatus             |
|   | 16 Supra Renal Capsule             | 26 Peyer's Patch                        |
|   | 17 Adipose Tissue                  | 27 Melanoidian Gland                    |



- 28 Sebaceous Gland
- 29 Lieberkuhnian Gland
- 30 Brain, Cerebellum
- 31 " Cerebrum
- 32 Testicle, with Spermatozoa in situ
- 33 Epididymis, with Spermatozoa in situ
- 34 Scalp, flat Section, Hairs transversal
- 35 Mammary Gland
- 36 Thymus "
- 37 Lymphatic Gland
- 38 Finger of Infant, entire trans-section through Nail
- 40 Retina, trans-section

*Lower Animals.*

- 41 Liver of Rabbit, Injected
- 42 Small Intestine Rat, Injected, Trans section, entire
- 43 Ileum of Cat, Injected, Trans Section, entire.
- 44 Ileum of Cat, Injected, Showing Villi
- 45 Colon of Cat, Injected, Showing Villi
- 46 Stomach of Dog, Showing Villi
- 47 Stomach of Frog, Trans section, entire
- 48 Processus vermiformis. Rabbit
- 49 Tongue of Cat, with Papillae
- 50 Tongue of Cat, Long Section
- 51 Neck of Foetal Cat, Entire Trans Section
- 52 Kidney of Cat, Injected
- 53 Testicle of Rat
- 54 Skin of Frog, Injected
- 55 " " Showing Pigment Cells
- 56 Nerve of Horse, Trans section
- 57 Embryo Chick, 42 Hours Incubation
- 58 Embryo Chick, 56 Hours Incubation
- 59 Embryo Chick, 65 Hours Incubation
- 60 Nose of Mouse, Entire Trans Section, Injected
- 61 Mesenteric Artery and Vein, Trans sections
- 62 Cerebellum of Cat
- 63 Cerebrum "
- 64 Spinal Cord of Calf
- 65 Arteries in Pia Mater
- 66 Capillaries " "
- 67 Medulla Oblongata
- 68 Pons Varoli
- 69 Yellow Elastic Cartilage
- 70 Epithelium
- 71 Nerve Cells in Spinal Cord
- 72 Intestine of Amphiuma
- 73 Cornea, Eye of Frog, Gold Staining
- 74 Skin of Horse, Flat section, Hairs transverse

*Bones and Teeth.*

- 75 Human Femur, Long Section
- 76 Human Femur, trans section
- 77 Human Tibia, trans section
- 78 Head of Femur (foetal) Ossifying Cartilage

- 79 Jaw Bone and Teeth, Human Foetus, 8 months
- 80 Supernumerary Tooth, Human Foetus, 8 months
- 81 Jaw and Tooth of Rat
- 82 Upper Jaw Cat, Teeth in situ
- 83 Lower Jaw Mole, Teeth in situ
- 84 Jaw of Foetal Pig
- 85 Tooth of Myliobates
- 86 Scale of an Eel

*Animal Hairs.*

- 87 Hair, Human, trans-section
- 88 Hair, Tail of Giraffe
- 89 Hair, Eyelash of Whale
- 90 Hair, Peccary
- 91 Hair, Tail of Elephant

*Animal Tissues, Pathological.*

- 92 Fibroma, hard
- 93 " soft
- 94 Chondroma
- 95 Osteoma
- 96 Myoma
- 97 Glioma
- 98 Neuroma
- 99 Papilloma, hard
- 100 " soft
- 101 Adenoma, breast
- 102 " cystic
- 103 Sarcoma, small round cell
- 104 " " spindle "
- 105 " large " "
- 106 " small round alveolar
- 107 " melanotic
- 108 " giant cell
- 109 " osteo
- 110 Epithelioma, squamous
- 111 " cylindrical
- 112 Carcinoma, scirrhus
- 113 " encephaloid
- 114 " endothelial

*Animal Parasites.*

- 115 Trichina Spiralis, Free in Muscle
- 116 Trichina Spiralis, Encysted in Muscle
- 117 Trichina Spiralis, Free
- 118 Head of Tape-worm with Hooks
- 119 Larva and Egg, Bot Fly on Hair of Horse
- 120 Dog Louse
- 121 Menopon of Pigeon
- 122 Section Tricocephalus Dispar
- 123 Demodex Folliculorum
- 124 Mole Flea, Sexes
- 125 Bed " "
- 126 Dog " "
- 127 Acari, from Rabbit
- 128 Sarcoptes Scabell, Male Female
- 129 Sarcptes Scabell, Larva and Egg
- 130 Pediculis Capitis
- 131 Pediculis Corporis
- 132 Pediculis Pubis
- 133 Filaria, Stomach of Ostrich
- 134 Sheep Tick
- 135 Pygidium of Flea

*Blood Discs.*

- 136 Human, Normal
- 137 Human, Aenemia
- 138 Rat
- 139 Mouse
- 140 Chicken
- 141 Brown Thrush

- 142 Fish—Pereh
- 143 Turtle
- 144 Amphiuma
- 145 Menopoma
- 146 Menobranchus
- 147 Tree Frog—Hyla
- 148 Frog
- 149 Salamander
- 150 Dove
- 151 Gull
- 152 Toad

*Spermatozoa.*

- 153 Human
- 154 Rabbit
- 155 Bull
- 156 Elephant

*Insect Parts.*

- 157 Tongue of Ant
- 158 Tongue of Honey Bee
- 159 " Wasp
- 160 " Empls
- 161 Proboscis of Bird-beak Fly
- 162 Proboscis of Blow Fly
- 163 Tongue of Privet Hawk, Moth
- 164 Tongue of Drone Fly
- 165 " House Cricket
- 166 " Garden Spider
- 167 Jaws and Palpi, Male Spider
- 168 Foot of Sarcophaga
- 169 " Blow Fly
- 170 " House Fly
- 171 " Ophion
- 172 " Wasp
- 173 " Honey Bee
- 174 " Dragon Fly
- 175 " Butterfly
- 176 Foot of Beetle
- 177 " Spider
- 178 " Water Spider
- 179 Compound Eyes Drone-Fly
- 180 Compound Eyes Horse-Fly
- 181 Compound Eyes of Beetle
- 182 Single Eye of Spider
- 183 Sucker from Leg of Dytiscus Beetle
- 184 Hairs of a Caterpillar
- 185 Gizzard of Field Cricket
- 186 " Mole "
- 187 " Katydid
- 188 " Caddis Worm
- 189 " Cockroach
- 190 " Grasshopper
- 191 Alimentary Canal, Menopon of Pigeon
- 192 Alimentary Canal of Fly, Organs of Siebold
- 193 Nervous System, Head of Honey Bee
- 194 Gyrimus, Feathered Oar
- 195 Antennae of Moth
- 196 Internal Reproductive Organs, Female House Fly
- 197 Ovipositor of House Fly
- 198 Reproductive Organs, Female Fly, Viviparous
- 199 Ovary, Female Fly, Viviparous
- 200 Gnat, Head of Male
- 201 Ovipositor, Saw Fly
- 202 Spiracle of Caterpillar
- 203 " Cockchafer
- 204 " Blow Fly
- 205 Trachea of Blow Fly
- 206 " Beetle
- 207 " Caterpillar
- 208 Scales from a Moth
- 209 " " a Butterfly

- 210 Scales of *Lepisma saccharina*  
 211 Scales of *Podura*  
 212 Wing of Moth  
 213 " Butterfly  
 214 " House Fly  
 215 " Mosquito  
 216 " Honey Bee  
 217 Sting and Poison Sac of Honey Bee  
 218 Sting and Poison Sac of Wasp  
 219 Elytron of Beetle, *Cupes capitata*  
 220 Male Organ, Blow-Fly  
 221 Antennae of Moth  
 222 " Blow-Fly  
 223 Balancers of "  
 224 Battledore Scale from Azure Blue Butterfly
- Whole Insects.*  
 225 Trombidium  
 226 Bed Bug, Cimex  
 227 Mosquito, Male  
 228 " Female  
 229 Larva of Carpet Beetle  
 230 Thistle Bug  
 231 Cheese Mite  
 232 Meal Mite  
 233 Sugar Mite  
 234 Water Beetle  
 235 Notonecta  
 236 Larva, Dermestes  
 237 Bird-beak Fly  
 238 Vinegar Fly  
 239 Cyclops quadricornis, with Vorticelli parasitic  
 240 Young Aphids, from Maple Leaf  
 241 Chelifer  
 242 Phylloxera
- Botanical.*  
 244 Starch from Canna Root, Tous le Mots  
 245 Starch from Bermuda Arrowroot  
 246 Starch from Potato  
 247 " " Rice  
 248 " " Beans  
 249 " " Wheat  
 250 " " Indian Corn  
 251 Pollen from Hollyhock  
 252 " " Mallow  
 253 " " Convolvulus  
 254 " " Lily  
 255 " " Bleeding Heart  
 256 Pollen from Cedar of Lebanon  
 257 Scleriform Vessels from a Fern  
 258 Spiral Vessels from Rhus  
 259 Spiral Vessels from Castor Bean  
 260 Annular and Spiral Deposit, *Opuntia vulgaris*  
 261 Stomata in Cuticle of *Cycas revoluta*  
 262 Stomata in cuticle *Yucca gloriosa*  
 263 Fruit dot of a Fern, *Adiantum*  
 264 Leaf, *Shepherdia Canadensis*, Section; Scales in situ  
 265 Cells in Cuticle of *Pelargonium petal*  
 266 Raphides in Cuticle of Cactus
- 267 Begonia, Section of Ovary  
 268 *Magnolia glauca* section of Ovary  
 269 Fructification of a Fern  
 270 *Fucus Vesiculosus*, section of Thallus  
 271 *Calla Ethiopica*, section Ovary  
 272 Coriander Seed, trans section  
 273 Leaf of Orchid, trans section  
 274 Grain of Wheat, trans and long sections  
 275 Ovary of *Portulaca*, trans section  
 276 *Casarea Segrata*, trans section Bark  
 277 Starch Grains in Stem of Young Oak  
 278 Cuticle of Geranium petal  
 279 Cuticle of *Nuphar Lutea*, trans section, Internal Hairs  
 280 *Aecidium Compositum* section  
 281 *Lycopodium Wildenovii*, trans section stem  
 282 Coffee Bean, trans section  
 283 *Drosera Rotundifolia*, Leaf of  
 284 Flower, *Houstonia Caelea*  
 285 Water Glands, *Nepenthes distillatoria*  
 286 Spines, Interior pitcher of *Saracenia purpurea*  
 287 Internal Hairs, Leaf of *Nymphaea dentata*  
 288 Nucleated Cellular tissue of Onion  
 289 Nucleated Cellular tissue, Leaf of *Fritillaria imperialis*  
 290 Midrib Leaf of *Rhododendron*, trans section  
 291 *Serjania*, trans section, Stem  
 292 Pine Wood, long section  
 293 Black Gum, trans "  
 294 Apple Tree, "  
 295 *Clematis Vitalba*  
 296 *Clematis Virginiana*  
 297 Bracken fern, trans section  
 298 Bignonia, "  
 299 *Canotia*, "  
 300 Wild Rose, long section of Thorn  
 301 Clover Stalk, trans section  
 302 Leaf-*Pinus Strobus*, trans section  
 303 Cedar Wood, trans section  
 304 Furze, trans section, Stem  
 305 *Equisetum arvense*, trans section, Stem  
 306 *Luchnohossus globosum*  
 307 *Enerthrenum papillota*  
 308 *Diocyan lucopoda*  
 309 *Physarum Petersii*  
 310 *Aurelia moniliformis*  
 311 Spores, *Osmunda regalis*  
 312 Sugar Cane, Section stem  
 313 Cork Tree, Section wood showing medullary rays  
 314 Cherry Tree, Wood, Long section  
 315 *Deutzia Scabra*, Cuticle of leaf, Polariscopes
- 316 Ovary of Lily, trans section  
 317 Anther of Lily, trans section  
 318 Ovary, *Cereus grandiflorus*  
 319 Stomata, in Cuticle of Box-leaf
- Algae.*  
 320 *Draparnaldia Plumosa*, Fresh water  
 321 *Volvox globator*, Fresh water  
 322 *Callithamium Corymbosum*, Marine  
 323 *Ptilota elegans*, Marine  
 324 *Batrachospermum moniliforme*, Fresh water  
 325 Moss, *Physcomitrium pyriformis*
- Diatoms.*  
 326 *Triceratium favus*  
 327 " *lobatum*  
 328 " *Davyticium*  
 329 " *Sextangulatum*  
 330 *Triceratium Septangulatum*  
 331 *Arachnoidiscus Ehrenbergii*  
 332 *Arachnoidiscus Japonicus*  
 333 *Heliopecta*  
 334 *Actinoptichus undulatus*  
 335 *Aulacodiscus angulatus*  
 336 " *Kittonii*  
 337 " *formosus*  
 338 " *maragaticus*  
 339 *Stephanodiscus Niagarae*  
 340 *Craspedodiscus coscinodiscus*  
 341 *Stictodiscus buryanus*, Californicus  
 342 *Auliscus*  
 343 *Pinularia major*  
 344 *Navicula lyra*  
 345 *Pleurosigma angulatum*  
 346 " *Balticum*  
 347 *Lichophora fiabellata*  
 348 *Isthmia enervis*, *Isthmia nervosa*  
 349 Grouped Diatoms, various, six slides  
 350 *Moller's* Typen Platten, 4 slides  
 351 *Rhabdonema mirificum*  
 352 *Coscinodiscus excavatus*  
 353 *Eupodiscus argus*  
 354 *Raphidodiscus Marylandi*  
 355 *Biddulphia*
- Desmids.*  
 356 *Micrasteria denticulata*  
 357 *Tongues of Gasteropoda.*  
 358 Tongue of Limpet  
 359 Tongue of Nerita  
 360 Tongue of Neritina fluviatilis  
 361 Tongue of Littorina ulva
- Sponge Spicules.*  
 362 *Tethia*, Marine  
 363 *Hyalomena mirabilis*, Marine  
 364 Gemmules of Sponge  
 365 *Sycon ciliata*, Section  
 366 *Myecia robusta*, Fresh water, Potts  
 367 *Myecia Leydell*, Fresh water, Potts  
 368 *Myecia Casteriformana*, Fresh water, Potts  
 369 *Heteromyecia Ryderi*, Fresh water, Potts

- 367 *Heteromerenia argyrosperma*. Fresh Water. Potts  
368 *Carterius latinala*. Fresh water. Potts  
*Polycistina*.  
369 Grouped. From Bahad-  
does  
*Foraminifera*.  
370 *Foraminifera*. The Le-  
vant

- 371 *Foraminifera*. The Gulf Stream  
372 " Zanzibar  
373 " Cuxhaven  
374 " Red Sea  
375 " Porcellaneous  
376 " Alveolina  
377 " Orbiculina  
378 " Orthisolite  
379 Zoophyte. Halaeum halaeum, with tentacles

- expanded  
380 *Valvata cristata*. Shells  
*Holothuridae*.  
381 Spine of Hippocampus violacea  
382 Spine of Diadema Savignii  
383 Spine of Echinometra Mitchellii  
384 Spines of Echinus, various

## HEAT.

- 1 Simple pyrometer  
2 S'Gravesand's Ring  
3 Experiment with platinum wire  
4 Unequal expansion of different metals  
5 Metallic thermometers  
6 Compensating pendulum No. 1  
7 Compensating pendulum No. 2  
8 Pendulum with compensating bars  
9 Compensating balance wheel  
10 Measurement of coefficient of linear expansion. No. 1. (Lavoisier and Laplace)  
11 Measurement of coefficient of linear expansion. No. 2. (Roy and Ramsden).  
12 Expansion of crystals  
13 Contraction of India-rubber by heat  
14 Trevelyan's rocker  
15 Rocking fire-shovel experiment  
16 Expansion of liquids and gases by heat  
17 Expansion of liquids, projected on the screen  
18 Filling a mercurial thermometer  
19 Boiling the quicksilver  
20 Determination of freezing point  
21 Determination of boiling point  
22 Thermometer scales  
23 Weight thermometer  
24 Air thermometer. Absolute zero  
25 Differential thermometers  
26 Maximum and minimum thermometers. (Rutherford).  
27 Maximum and minimum thermometers. (Wolf-  
erdin).  
28 Apparent and real expansion  
29 Pierre's apparatus  
30 Measurement of coefficient of absolute expansion of mercury. No. 1. (Dulong and Petit).  
31 Measurement of coefficient of absolute expansion of mercury. No. 2. (Regnault).  
32 Maximum density of water. Hope's experiment.  
33 Maximum density of water. Graphic illustration

- 34 Graphic charts of expansion  
35 Expansion of air by heat  
36 Expansion of bladder by heat  
37 Draught in fireplace  
38 Heating and ventilating stove  
39 Hot air heating apparatus  
40 Hot air balloon  
41 Ventilation of mines, etc., by heat  
42 Expansion of gases. Gay Lussac's apparatus  
43 Expansion of gases. Regnault's apparatus  
44 Expansion and density of gases. Regnault's apparatus  
45 Cold produced by expansion of gases. Ice machine  
46 Influence of pressure on melting point. (Oersted)  
47 Change of volume on solidification  
48 Elastic force of vapor  
49 Formation of vapor in vacuo  
50 Saturated vapors. Maximum of tension  
51 Non-saturated vapors  
52 Tension of aqueous vapor below zero. Gay Lussac's apparatus  
53 Tension of vapors. (Dalton Regnault)  
54 Tension of vapors. (Dulong and Arago)  
55 Tension of vapors. (Regnault, above 100 deg.)  
56 Tension of vapors. (Magnus)  
57 Tension of vapor in communicating vessels at different temperatures  
58 Ebullition. Water "singing"  
59 Ebullition. Water boiling  
60 Donny's experiment on dissolved air  
61 Tension of vapor during ebullition  
62 Influence of pressure on boiling point  
63 Influence of pressure. Franklin's experiment  
64 Franklin's pulsometer  
65 Hypsometer  
66 Diagram of effects of heat upon water  
67 Comparative volumes of water and steam.  
68 Papin's digester. No. 1  
69 Papin's digester. No. 2  
70 Picture of geyser. No. 1

- 71 Picture of geyser. No. 2  
72 Experimental geyser  
73 Diagram explaining geyser  
74 Cold due to evaporation  
75 The Cryophorus.  
76 Freezing by evaporation by ether  
77 Carre's ice machine. No. 1  
78 Carre's ice machine. No. 2  
79 Latent heat of vapor  
80 Distillation. Chemical  
81 Distillation. Liebig's apparatus  
82 Distillation. Safety tubes  
83 Distillation. Commercial  
84 Distillation. Alcohol Value of wines.  
85 Liquefaction of gases Faraday's apparatus  
86 Liquefaction of gases. Pouillet's apparatus.  
87 Liquefaction of gases. Thilorier's apparatus. No. 1  
88 Liquefaction of gases. Thilorier's apparatus. No. 2  
89 Liquefaction of gases Blanchi's apparatus  
90 Liquefaction of gases. Magnus's apparatus  
91 Liquefaction of gases. Andrews' apparatus  
92 Liquefaction of gases. Cailliet's apparatus  
93 Liquefaction of gases. Pictet's apparatus  
94 Density of vapors. Gay Lussac's apparatus  
95 Density of vapors. Hofmann's apparatus  
96 Density of vapors. Dumas's apparatus  
97 Mixture of gases and vapors. Gay Lussac's apparatus  
98 Spheroidal condition. Globule.  
99 Spheroidal condition. Experimental illustration. No. 1  
100 Spheroidal condition. Experimental illustration. No. 2  
101 Hair hygrometer  
102 Chemical hygrometer  
103 Daniell's hygrometer  
104 Regnault's hygrometer  
105 Edelmann's hygrometer  
106 Psychrometer  
107 Hoar frost on window pane. No. 1  
108 Hoar frost on window pane. No. 2  
109 Hoar frost on window pane. No. 3  
110 Snow Crystals. No. 1  
111 Snow Crystals. No. 2

- 112 Snow Crystals, No. 3
- 113 Snow Crystals, No. 4
- 114 Snow Crystals, No. 5
- 115 Snow Crystals, No. 6
- 116 Snow Crystals, No. 7
- 117 Snow Crystals, No. 8
- 118 Dissection of ice by electric lamp
- 119 Flowers of ice. (Tyndall)
- 120 Regelation. Bottomley's experiment
- 121 Ice moulded by pressure, No. 1
- 122 Ice moulded by pressure, No. 2
- 123 Glaciers. 1—View of the "Mer de glace"
- 124 Glaciers. 2—Map of the "Mer de glace"
- 125 Glaciers. 3—Section of the "Mer de glace"
- 126 Conduction of heat. Ball and rod experiment
- 127 Conduction of heat. Ingenhous' apparatus
- 128 Conduction of heat. Despretz apparatus
- 129 Conduction in crystals. (Senarmont)
- 130 Conduction in wood. (Tyndall)
- 131 Conduction in gases. (Magnus)
- 132 Wire gauze over flame.
- 133 Davy's safety lamp
- 134 Ice house
- 135 Norwegian cooking stove
- 136 Eskimo dress
- 137 Bad conducting power of liquids
- 138 Water boiling over ice
- 139 Convection currents, No. 1
- 140 Convection currents, No. 2
- 141 Convection currents, No. 3
- 142 Conductivity of liquids. Despretz apparatus
- 143 Conductivity of liquids. Guthrie's apparatus
- 144 Heating buildings by hot water
- 145 Oceanic currents; Gulf Stream. Map
- 146 Oceanic currents; Gulf Stream. Section
- 147 Convection currents in gases
- 148 Simple calorimeter. Heated balls
- 149 Black's ice calorimeter
- 150 Lavoisier and Laplace's ice calorimeter
- 151 Bunsen's ice calorimeter
- 152 Specific heat. Liquids. (Regnault)
- 153 Specific heat. Gases. (De la Roche and Berard)
- 154 Specific heat. Gases. (Regnault)
- 155 Specific heat. Aqueous Vapors. (Regnault)
- 156 Latent heat of evaporation. (Despretz)
- 157 Favre and Silbermann's water calorimeter
- 158 Favre and Silbermann's calorimeter, No. 1
- 159 Favre and Silbermann's calorimeter, No. 2
- 160 Favre and Silbermann's calorimeter for combustion
- 161 Thermo-electric couple
- 162 Construction of thermopile
- 163 Thermopile and galvanometer
- 164 Radiation of heat in straight lines
- 165 Radiation of heat. Law of inverse squares
- 166 Radiation of heat. Law of inverse squares and cosine
- 167 Reflection of radiant heat
- 168 Reflection of heat by tube and single mirror
- 169 Burning mirror
- 170 Reflection of heat by conjugate mirrors
- 171 Reflection of heat in vacuum
- 172 Refraction of heat. Burning glass
- 173 Refraction of heat. Echeion lens
- 174 Refraction of heat. Berniere's lens
- 175 Refraction of heat. Prismatic dispersion
- 176 Leslie's cube and thermopile
- 177 Melloni's sources of heat
- 178 Melloni's measurement of radiating power
- 179 Melloni's measurement of absorptive power
- 180 Reciprocity of radiation and absorption
- 181 Reciprocity of radiation and absorption. Ritchie's apparatus
- 182 Theory of exchanges
- 183 Theory of exchanges. Tourmaline experiment
- 184 Newton's law of cooling. Dulong's apparatus
- 185 Melloni's measurement of reflecting power
- 186 Melloni's measurement of diathermancy
- 187 Diathermancy of liquids. (Tyndall)
- 188 Diathermancy of air. (Tyndall)
- 189 Diathermancy of gases. (Tyndall)
- 190 Absorption of radiant heat by air. (Tyndall)
- 191 Influence of thickness upon diathermancy
- 192 Relation of gases and vapors to radiant heat. (Tyndall)
- 193 Radiating power of gases. (Tyndall)
- 194 Linear thermopile and its application
- 195 Diagram of thermal, luminous, and actinic intensities in solar spectrum
- 196 Diagram of thermal intensities in sun and electric light
- 197 Calorescence. Tyndall's apparatus, No. 1
- 198 Calorescence. Tyndall's apparatus, No. 2
- 199 Calorescence. Experiments with ray filter, No. 1
- 200 Calorescence. Experiments with ray filter, No. 2
- 201 Identity of light and radiant heat. Reflection
- 202 Identity of light and radiant heat. Refraction
- 203 Identity of light and radiant heat. Double Refraction
- 204 Identity of light and radiant heat. Polarization
- 205 The radiometer
- 206 Solar rays used by Athan. Kircher
- 207 Pyrheliometer
- 208 Bunsen's burner and candle flame
- 209 Combustion of iron wire in oxygen
- 210 Oxyhydrogen blowpipe
- 211 Blast furnaces
- 212 Animal heat. Dulong's apparatus
- 213 Voltaic battery and carbon points
- 214 Peltier's experiment
- 215 Thermo-electric couple. (Pouillet)
- 216 Series of thermo-electric couples. (Pouillet)
- 217 Thermo-electric battery. (Bequerel)
- 218 Thermo-electric battery. (Diamond)
- 219 Electrical thermometer. (Riess)
- 220 Electrical thermometer. (Bequerel)
- 221 Electrical pyrometer. (Bequerel)
- 222 Spark obtained by friction, No. 1
- 223 Spark obtained by friction, No. 2
- 224 Experiment with whirling table
- 225 Rumford's experiment on mechanical heat
- 226 Heat developed by pouring mercury, No. 1
- 227 Heat developed by pouring mercury, No. 2
- 228 Heat developed by compression of air
- 229 Chilling produced by current of air
- 230 Chilling produced by bellows
- 231 Precipitation of clouds
- 232 Joule's apparatus for mechanical equivalent of heat
- 233 Lecture apparatus for mechanical equivalent of heat
- 234 Hirn's ballistic pendulum
- 235 Heat rendered sensible by compression of air
- 236 Diagram of Carnot's engine
- 237 Steam engine indicator
- 238 Indicator diagram
- 239 Heat developed in magnetic field
- 240 Heat developed in magnetic field. Foucault's experiment
- 241 The aeolipile
- 242 Savery's engine.
- 243 Newcomen's engine
- 244 Single acting engine. (Watt)
- 245 Double acting engine. (Watt)

- |  |   |   |
|--|---|---|
| 246 Double acting engine and boiler      | 251 Modern locomotive engine, elevation   | 255 Steam boiler                        |
| 247 Double cylinder marine engine, No 1  | 252 Modern locomotive engine, section     | 256 Steam boiler, marine                |
| 248 Double cylinder marine engine, No. 2 | 253 Rotatory engine, elevation. (Behrens) | 257 Section of cylinder and slide-valve |
| 249 Locomotive engine, "Puffing Billy"   | 254 Rotatory engine, section, (Behrens)   | 258 Giffard's Injector                  |
| 250 Locomotive engine, "The Rocket"      |   | 259 Gas engine. (Crossley)              |
|  |   | 260 Gas engine. (Otto and Langen)       |

## MAGNETISM AND ELECTRICITY.

- |   |  |   |
|---|--|---|
| 1 Dr. Gilbert's Method of making a Magnet. (Old print, date 1600) | 33 Isoclinic lines for the year 1860                               | 71 Positive and negative brushes                                    |
| 2 Iron Filings attracted by a Bar Magnet                          | 34 Electricity excited by friction                                 | 72 Discharge in a Torricellian vacuum                               |
| 3 Hypothetical position of the Magnetic Fluids in a Magnet        | 35 Attraction of light bodies                                      | 73 Electric Egg for showing spark in rarefied air                   |
| 4 Magnetic Pendulum   | 36 Phenomena of attraction and repulsion                           | 74 Apparatus for showing the electric light in various gases        |
| 5 Attraction of a Magnetic Bar by Iron                            | 37 Biot's experiment   | 75 Electrical Chimes  |
| 6 Magnetization by influence of magnetism                         | 38 Proof-plane and hollow sphere                                   | 76 Electrical Hall  |
| 7 Magnetization by influence at a distance                        | 39 Faraday's experiment  | 77 Luminous Tube  |
| 8 Magnetism neutralized by the contact of opposite poles          | 40 Electrification by influence                                    | 78 Luminous Globe   |
| 9 Bar-magnet with consequent points                               | 41 Reiss' induction experiment apparatus                           | 79 Spangled luminous pane   |
| 10 Magnetization of a horse-shoe magnet                           | 42 Diagram of theory of electrical attraction                      | 80 Kinnersley's thermometer and electric mortar                     |
| 11 Magnetization by Dumas's process and that of Aepinus           | 43 Electrical induction through a series of conductors             | 81 Volta's Pistol   |
| 12 Compound magnet formed of twelve bars                          | 44 Tension of electricity at different points of various figures   | 82 Cuneus' experiment, the Leyden jar                               |
| 13 Magnet formed of two compound bar magnets                      | 45 Electric wind   | 83 Charging the Leyden jar  |
| 14 Iron horse-shoe magnet with its armature and keeper            | 46 Electric fly  | 84 Instantaneous discharge of a Leyden jar by the discharger        |
| 15 Natural magnet furnished with its armature                     | 47 Quadrant electroscope   | 85 Successive discharges of Leyden jar, chimes                      |
| 16 Magnetic needle showing both inclination and declination       | 48 Gold leaf electroscope  | 86 Battery of electrical jars                                       |
| 17 Declination compass, Ganot, 543                                | 49 Gold leaf electroscope in use                                   | 87 Universal discharger   |
| 18 Gambey's declination compass                                   | 50 Straw-stalk electrometer  | 88 Experiment of perforating a card                                 |
| 19 Ship or mariner's compass                                      | 51 Coulomb's torsion balance electrometer                          | 89 Experiment of perforating glass                                  |
| 20 The binnacle of a man-of-war                                   | 52 Dellmann's torsion balance electrometer                         | 90 Franklin's portrait experiment                                   |
| 21 Variation compass  | 53 Experiment showing the distribution of electricity on a surface | 91 Fulminating Pane   |
| 22 Portable declination compass                                   | 54 Experiment showing electrification by influence, Ganot, 571     | 92 Condenser of Aepinus   |
| 23 Surveying compass  | 55 Experiment with four ice balls, Ganot, 573                      | 93 Charging the condenser of Aepinus                                |
| 24 Principle of the mirror declinometer                           | 56 Specific inductive capacity, Faraday's experiment               | 94 Leyden jar with movable coatings                                 |
| 25 Gauss' bifilar magnetometer                                    | 57 Electrophorus   | 95 Lane's unit jar  |
| 26 Leyser's portable magnetometer                                 | 58 Otto von Guericke's electric machine                            | 96 Reiss' method of using the unit jar                              |
| 27 Lamont's magnetic theodolite                                   | 59 Ramsden's plate electric machine                                | 97 Harris' unit jar, Ganot, 610                                     |
| 28 Coulomb's magnetic torsion balance                             | 60 Gruel's cylinder electric machine                               | 98 Volta's condensing electroscope                                  |
| 29 Weber's instrument for observing the earth's magnetism         | 61 Nairn's electric machine  | 99 Leichtenberg's figures, distribution of two kinds of electricity |
| 30 Oscillating magnet for determining the earth's magnetism       | 62 Winter's electric machine                                       | 100 Leichtenberg's figures, distribution of positive electricity    |
| 31 Dip circle   | 63 Holtz's electric machine, front view                            | 101 Leichtenberg's figures, distribution of negative electricity    |
| 32 Isoclinic lines for the year 1868                              | 64 Holtz's electric machine, back view                             | 102 Duration of spark, Wheatstone's revolving mirror                |
|   | 65 Bertsch's electric machine, Ganot, 587                          | 103 Duration of spark, theory of revolving mirror                   |
|   | 66 Carre's dielectrical machine                                    | 104 Diagram of Feddersen's experiment to measure duration of spark  |
|   | 67 Armstrong's Hydro-electrical machine                            | 105 Diagram of Wheatstone's spark-board                             |
|   | 68 Electric sparks   | 106 Lucas & Cazlin's electric chronoscope, Ganot, 627               |
|   | 69 Forms of Electric discharges                                    | 107 Reiss' spark micrometer   |
|   | 70 Electric brush after Van Marum                                  |   |

- 108 Reiss' electric spark alr-thermometer
- 109 Bornhardt's electric machine for exploding mines
- 110 Von Ebner's electric machine for exploding mines
- 111 Abel's electric fuse. Ganot, 624-625
- 112 Colonel Shaw's apparatus for blasting
- 113 Thompson's needle quadrant electrometer. Ganot, 613
- 114 A storm on the Pyramids
- 115 Different kinds of lightning
- 116 The fire of St. Elmo
- 117 Electric Aureola
- 118 Photographic reproduction of electric spark
- 119 Globular Lightning seen and sketched by M. Colon
- 120 Globular Lightning
- 121 Formation of marine Waterspout
- 122 Sailors firing at a Waterspout
- 123 Tank struck by Lightning at Montmartre, '66
- 124 Tree scarified by Lightning in the forest of Saint Germain
- 125 M. Lancon struck by Lightning
- 126 Electrified Tree
- 127 Prevention of Hall-storms
- 128 Lightning above a Volcano
- 129 Fish killed by Lightning
- 130 Bell-ringer struck by Lightning
- 131 Lightning attracted by Metallic lodes
- 132 Umbrella and Lightning conductor. Comic
- 133 Bell-glass Preserver. Comic
- 134 Coast-guard blinded by Lightning
- 135 Effect of a distant Thunderbolt
- 136 Explosion of gas
- 137 Miners struck by Lightning
- 138 Lightning passing down a staircase
- 139 Franklin's kite experiment
- 140 Oak struck by Lightning at Wimbledon Park
- 141 Vertical rod of Lightning conductor and gilded copper point
- 142 Fixing Lightning conductors, vertical and oblique rods
- 143 Limits of protection of a system of Lightning conductors on a building
- 144 Lightning conductor with multiple points
- 145 Saussure's atmospheric electrometer. Ganot, 811
- 146 Aurora Borealis in the Arctic regions
- 147 Aurora Borealis seen in Atlantic ocean. Aug. 9, 1849
- 148 Radiating and Curtain Aurora
- 149 Galvani's frog's leg experiment
- 150 Galvani's experiment on induction
- 151 Galvani's researches with contact of metals
- 152 Galvani's experiments on animal electricity
- 153 Repetition of Galvani's experiment with a frog's legs
- 154 Voltaic element. Ganot, 630
- 155 Voltaic pile
- 156 Zamboni's pile. Electric perpetual motion.
- 157 Pile electrometer
- 158 Electricity developed by chemical action
- 159 Crown of cups
- 160 Cruikshank's trough
- 161 Wollaston's cell
- 162 Wollaston's battery
- 163 Hare's deltagrator
- 164 Daniell's cell
- 165 Grove's cell
- 166 Bunsen's cell
- 167 Bunsen's battery of five elements
- 168 Rectangular zinc and carbon battery
- 169 Callan's battery. Ganot, 638
- 170 Batteries of Marie Davy, Callaud and Minotte. Ganot, 639, 640, 641
- 171 Leclanche's element. Ganot, 642
- 172 Stohrer's chamber battery
- 173 Decomposition of water by voltaic battery
- 174 Explosion of torpedoes by electricity. Gen. Chazet's system of defense
- 175 Bichromate of potash battery for blasting mines
- 176 Statbam's fuse for exploding, and chambers in mines
- 177 Tunnels and preparatory works for blowing up Hell Gate Rock. New York
- 178 Blowing up of Hell Gate Rock, and diagrams of apparatus
- 179 Formation of metallic magnesium in a tobacco pipe
- 180 Decomposition of salts
- 181 Decomposition of potash
- 182 Davy's experiment, transmissions effected by current, and Grothus' hypothesis. Ganot, 669, 670
- 183 Grove's gas battery
- 184 Faraday's experiment in electrolysis. Ganot, 671
- 185 Mechanical action of a current. Ganot, 663
- 186 Lippmann's capillary electrometer. Ganot, 665
- 187 Simple apparatus for electro-plating
- 188 Compound apparatus for electro-typing
- 189 Electro-typing objects in the round. The mould and finished object
- 190 Compound apparatus for gold and silver electro-plating
- 191 Roseleur's balance for gold and silver electro-plating
- 192 Oersted's experiment
- 193 Ampere's law
- 194 Deviation to the left of the vertical current
- 195 Schweigger's multiplier. Diagram.
- 196 Schweigger's multiplier and astatic needles. Diagram. Ganot, 644, 645
- 197 System of two astatic needles. Diagram
- 198 Nobili's astatic galvanometer
- 199 Astatic galvanometer
- 200 Du Bois' astatic galvanometer
- 201 Thomson's marine galvanometer. Ganot, 647
- 202 Meissner's and Meyerstein's mirror galvanometer
- 203 Weber's tangent galvanometer
- 204 Sine galvanometer
- 205 Stemen's and Halske's sine galvanometer
- 206 Ohm's law, various ways of connecting batteries
- 207 Wheatstone's rheostat
- 208 Poggendorff's rheocord
- 209 Resistance pile
- 210 Resistance measured by Poggendorff's compensation method
- 211 Diagram of Wheatstone's bridge
- 212 Derived current or divided circuit. Diagram
- 213 Resistance of liquids. Wheatstone's apparatus
- 214 Resistance of liquids. Becquerel's apparatus
- 215 Resistance of liquids. Horsford's and an improved trough
- 216 Polarization of the electrodes
- 217 Galvanic polarization apparatus
- 218 Poggendorff's rocker for galvanic polarization
- 219 Electric light
- 220 Duboseq's and Foucault's regulators for the electric light
- 221 Serrin's regulator for the electric light
- 222 Electric Battery Room, New Opera House, Paris
- 223 Works carried on at night by electric light
- 224 Browning's regulator. Ganot 662
- 225 Image of the carbon points
- 226 Divers examining a wreck by electric light
- 227 Electric light used by the navy searching for torpedoes
- 228 Ampere's experiments, Repulsion of parallel currents in contrary direction. Ganot 674
- 229 Ampere's experiment, Attraction of parallel currents in the same direction. Ganot, 676

- 230 Ampere's experiment. Attraction of rectilinear angular currents, Ganot, 677
- 231 Ampere's experiment. Repulsion of rectilinear angular currents, Ganot, 678
- 232 Experiment with charcoal points, showing repulsion of currents, Ganot, 679
- 233 Law of sinuous currents, Ganot, 680
- 234 Weber's Bifilar Dynamometer
- 235 Action of a magnet on a current
- 236 Rotation of a current by a magnet
- 237 Rotation of currents round the poles of a horse-shoe magnet
- 238 Bertin's experiment. Electro-dynamic rotation of liquids, Ganot, 697
- 239 Bertin's Commutator, Ganot, 698
- 240 Reusch's Commutator
- 241 Faraday's experiment. Rotation of a current by a magnet, Ganot, 696
- 242 Rotation of magnets by a current
- 243 Faraday's experiment. Rotation of a magnet by a Current, Ganot, 692, 692a
- 244 Rotation of a current by a current
- 245 Directive action of the earth on vertical and horizontal currents, Ganot, 700, 701
- 246 Astatic circuits
- 247 Repulsion of successive portions of a voltaic current
- 248 Structure of a solenoid
- 249 Action of a current on a solenoid, Ganot, 704
- 250 Mutual action of solenoids, Ganot, 705
- 251 Orientation of a solenoid
- 252 Dip of element of solenoid
- 253 Ampere's theory of magnetism, Ganot, 706
- 254 Magnetization of steel needle and production of consequent points by a solenoid
- 255 Electro-magnet with its charge
- 256 Electro-magnetic chain
- 257 Horse-shoe electro-magnet and opposing spring
- 258 Electro-magnet with opposing spring
- 259 Diagram of Wheatstone's electric chronoscope, speed of cannon ball
- 260 Wheatstone's electric chronoscope for falling bodies
- 261 Fouillet's chronoscopic experiment with pistol
- 262 Navez's electro-ballistic apparatus for measuring speed of cannon ball
- 263 Electro-magnet and commutator
- 264 Electro-magnet and commutator seen from above
- 265 Ruhmkorff's commutator, end view and section
- 266 Reiss' magnetic telephone
- 267 Ritchie's rotating electro-magnet
- 268 Induced current by a current
- 269 Induced current by distinct coil within coil
- 270 Induced current by the approach of a continuous one, Ganot, 728
- 271 Induction by the approach of a magnet
- 272 Induction by magnetization of soft iron
- 273 Inductive action of a magnet on bodies in motion, Ganot, 731
- 274 Inductive action of Earth Delezenne's circle.
- 275 Inductive action of the earth. Weber's inclinatorium
- 276 Rheotome
- 277 Magnetic hammer
- 278 Double Interrupter
- 279 Du Bois Raymond's sliding coil apparatus
- 280 Reiss' induction spiral
- 281 Malleuecl's experiment. Inductive action of Leyden discharge
- 282 Extra current apparatus
- 283 Extra current coil and magnetic hammer
- 284 Extra current apparatus. Diagram
- 285 Breguet's magnetic exploder to blast mines
- 286 Buff's Disjuncter
- 287 Ruhmkorff's induction coil for electric light
- 288 Ruhmkorff's coil and interrupter
- 289 Foucault's Interrupter
- 290 Ruhmkorff's induction coil, apparatus and experiments
- 291 Stohrer's induction coil, apparatus for electric light
- 292 Stohrer's mercury interrupter
- 293 Flizeau's condenser, Ganot, 759
- 294 Ruhmkorff's coil, perforating a glass plate
- 295 Ruhmkorff's coil, charging a Leyden jar
- 296 Ruhmkorff's coil, charging a battery of jars
- 297 Faraday's induction experiment with copper disc and horse-shoe magnet
- 298 Barlow's Howel
- 299 Principle of magneto-electric machines
- 300 Principle of magneto-electric machines
- 301 Pixil's magneto-electric machine
- 302 Clarke's magneto-electric machines
- 303 Commutator of Clarke's machine, Ganot, 741, 742
- 304 Stohrer's magneto-electric machine
- 305 Details of commutator in Stohrer's machine
- 306 Stohrer's vertical magneto-electric machine
- 307 Gramm's magneto-electric machine for the laboratory
- 308 Gramm's magneto-electric machine for metallic precipitation
- 309 Gramm's magneto-electric machine for the electric light
- 310 Gramm's magneto-electric machine, latest form
- 311 Construction of Gramm's armature
- 312 Wild's magneto-electric machine
- 313 Ladd's magneto-electric machine
- 314 Ladd's magneto-electric machine with driving wheel
- 315 Alliance magneto-electric machine
- 316 Electric light during the siege of Paris
- 317 Siemens's armature, section and commutator
- 318 Bourhouze's electro-motor
- 319 Froment's electro-motor
- 320 Froment's electro-motor, diagram and detail
- 321 Foucault's experiment, copper disc rotated between poles of electro-magnet, Ganot, 772
- 322 Large induction coil at Polytechnic Institution
- 323 Stratification of electric light in rarefied air
- 324 Electric light in Geissler's tube
- 325 Rotation of Geissler's tubes
- 326 Electric light in various vapors, Ganot, 765, 766, 767
- 327 Geissler's tube. Electric in hydrogen
- 328 Tube with sheaths for showing electric light in a gas
- 329 Dumas and Benoit's electric safety lamp for miners
- 330 Arrangement for showing change of color in electric light produced by a magnet
- 331 Action of electro-magnet on voltaic arc
- 332 Action of electro-magnet on spark produced by induction coil
- 333 Action of electro-magnet on Geissler's tubes
- 334 Rotation of electric spark round a magnet
- 335 Action of magnet on electric discharge
- 336 Action of magnet on polarized light, Faraday, Ganot, 773
- 337 Apparatus for diamagnetism experiments
- 338 Diamagnetism of solids and liquids, Ganot, 774, 775, 776

- 339 Diamagnetism of flames  
 340 Gymnotus  
 341 Electric Fish  
 342 Muscular electricity, Smee's experiment with a rabbit  
 343 Du Bois Raymond's experiment, human muscular electricity  
 344 Seebeck's experiment, thermo-electric current  
 345 Thermo-electric current with one metal  
 346 Pouillet's thermo-electric couple  
 347 Pouillet's series of thermo-electric couples, Ganot, 779  
 348 Nobili's thermo-electric pile  
 349 Becquerel's thermo-electric battery, Ganot, 782, 783, 784  
 350 Melloni's thermo-electric pile  
 351 Becquerel's electrical thermometer, Ganot, 790  
 352 Becquerel's electrical pyrometer, Ganot, 791  
 353 Peltier's Cross  
 354 Wheatstone's five needle telegraph  
 355 Cooke & Wheatstone's single needle telegraph  
 356 Belgian and English Vocabularies of the single needle telegraph  
 357 Two needle telegraph  
 358 Vocabulary of the two needle telegraph  
 359 Bain's I and V telegraph  
 360 Indicator of Foy & Breguet's needle telegraph  
 361 Manipulator Foy & Breguet's needle telegraph  
 362 Vocabulary Foy & Breguet's needle telegraph  
 363 Manipulator of Breguet's dial telegraph  
 364 Manipulator of Breguet's dial telegraph, new form  
 365 Indicator of Breguet's telegraph  
 366 Indicator of Breguet's telegraph, view of mechanism  
 367 Details of mechanism of Breguet's telegraphic indicator  
 368 A dial telegraph station  
 369 Wheatstone's letter showing dial telegraph, 1840  
 370 Not and Gamble's letter telegraph  
 371 Siemens and Halske's dial telegraph  
 372 Manipulator of Siemens & Halske's dial telegraph  
 373 Indicator of Siemens and Halske's telegraph  
 374 Froment's dial telegraph, Ganot, 717, 718  
 375 Morse Manipulator  
 376 Morse Indicator  
 377 Diagram of apparatus in Morse telegraphy  
 378 Morse-Digney Indicator  
 379 Froment's relay  
 380 Morse telegraph with relay  
 381 Telegraphic station on Morse-Digney system  
 382 Vocabulary of the Morse system  
 383 Hughes' printing telegraph  
 384 Type and printing shafts of Hughes' telegraph  
 385 Mechanism of keys, etc. in Hughes' telegraph  
 386 Diagram of action of Hughes' telegraph  
 387 Wheatstone's automatic system, message as sent and received  
 388 Cassell's Pantelegraph  
 389 Transmitter and indicator of Cassell's pantelegraph  
 390 Fac-simile of despatch, Cassell's pantelegraph  
 391 Diagram of theory of Cassell's pantelegraph  
 392 Meyer's Pantelegraph  
 393 Backwell's copying telegraph  
 394 Telegraphic air lines: suspending posts and insulators  
 395 Mushroom and annular insulators  
 396 Stretching winches for telegraphic lines  
 397 English and German stretchers  
 398 Transatlantic cables from Valencia to Newfoundland  
 399 Sections of cable from Brest to St. Peters  
 400 Thomson's receiving apparatus of telegraph, Brest to St. Peters  
 401 Section of Thomson's galvanometer of the Brest to St. Peters telegraph  
 402 Electric Bell  
 403 Breguet's vibrating alarm  
 404 Aubine's vibrating alarm  
 405 Ansell's fire-damp indicator  
 406 Breguet's lightning conductor, telegraphic  
 407 Electric clock  
 408 Garnier's electric regulator  
 409 Garnier's electric regulator, connection with indicators  
 410 Froment's electric regulator  
 411 Breguet's illuminated clock  
 412 Verite's electric clock  
 413 Robert Houdin's electric clock  
 414 Froment's electric clock  
 415 Hipp's electric clock  
 416 Cooke and Wheatstone's single needle telegraph, back showing current reverser  
 417 Telegraphic magnetic needle and coils  
 418 Instrument coil damaged by lightning  
 419 Relay, front and side view  
 420 Voltaic element and galvanometer showing current, Pepper, 161  
 421 Galvanometer, showing thermo-electric current, Pepper, 162  
 422 Electric spark produced by a magnet, Pepper, 163  
 423 Electricity excited in the human body by friction, Pepper, 165  
 424 Electric repulsion shown by large paper tassel, Pepper, 169  
 425 Electric dancing figures, Pepper, 170  
 426 Effects of thunder and lightning experimentally shown, Pepper, 177  
 427 Simple electrotyping apparatus in a tumbler, Pepper, 186  
 428 Jacobi's method of magnetizing a horse-shoe magnet, Pepper, 198  
 429 Simple method of showing the rotation of current round a magnet, Pepper, 203  
 430 Simple arrangement for showing a wire circuit rotated by a magnet, Pepper, 204  
 431 Simple method of showing a magnet rotating round a current, Pepper, 205  
 432 Simple current reverser, Pepper, 219  
 433 Leyden jar and shape of tin-foil spangles, Pepper, 228  
 434 Boy, evidently shocked, behind doctor's carriage provided with coil machine, 233  
 435 Prof. Tyndall lecturing to the young folks on electricity; original sketch by one of the audience  
 436 Magnetic needle attracted by bar magnet  
 437 Magician and his loadstone rock, Pepper  
 438 Electric chronograph  
 439 Bright's bells  
 440 Box of resistance coils  
 441 Diagram of relay and local circuit  
 442 Machinery, etc., making the Atlantic electric cable  
 443 Machinery for taking the electric cable on board the Great Eastern  
 444 Stowing the cable in the hold of the Great Eastern  
 445 Breaking of the Atlantic electric cable on board the Great Eastern  
 446 Preparing for the final attempt to grapple the lost cable  
 447 Buoys and grapnels used to recover the Atlantic electric cable  
 448 Receiving messages from the Great Eastern in the instrument room at Valencia  
 449 Jamin's Magneto-electric machine  
 450 Electro dynamometer, with Helmholtz's arrangement of coils



- 451 Peltiers electroscope
  - 452 Thomson's replenisher
  - 453 Marey's modification of Lippman's electrometer
  - 454 Dewar's modification of Lippman's electrometer
  - 455 Halley's first magnetic map. Date 1700
  - 456 Jablochhoff's electric candle and lantern
  - 457 Jablochhoff's electric candle, arrangement for holding the candle
  - 458 Jablochhoff's electric candle, diagram of lamp, machine and shunt
  - 459 Jablochhoff's electric candle, the automatic shunt
  - 460 Grammes portable electro-magnetic machine with locomotive
- Magnetic Curves.*
- 461 Magnetic curves of bar magnet
  - 462 Magnetic curves of horse-shoe magnet
  - 463 Magnetic lines of force of single pole
  - 464 Curves of attraction of two magnets
  - 465 Curves of repulsion of two magnets
  - 466 Two parallel magnets attracting
  - 467 Two parallel magnets repelling
  - 468 Lines of force of dissimilar poles
  - 469 Lines of force of similar poles
  - 470 Horizontal section of electro-magnet
  - 471 Lines of force of electro-magnet
  - 472 Action of magnetic field on a small magnet
  - 473 Circular lines of force round a galvanic current
  - 474 Lines of force of current in horizontal wire
  - 475 Magnetic field of a looped conductor
  - 476 Field of two parallel attracting currents
  - 477 Field of two parallel repelling currents
  - 478 Attraction of two parallel horizontal currents
  - 479 Repulsion of two opposed parallel currents
  - 480 Magnetic field of oblique currents
  - 481 Field of horizontal and vertical currents
  - 482 Lines of force of current deflecting a needle
  - 483 Stable position of needle near vertical currents
  - 484 Neutral position of needle near vertical current
  - 485 Unstable position of needle near vertical current
  - 486 Field of force of a galvanometer
  - 487 Field of magnetic needle in a circuit
  - 488 Field of magnetic attracting current
  - 489 Attraction of North pole into a simple circuit
  - 490 Repulsion of South pole out of a simple circuit
  - 491 Mutual rotation of current and magnet pole
  - 492 Spiral field of magnet rotated by current running through it
  - 493 Converse spiral field of south pole rotated by current running through it
- Sound.*
- 494 Propagation of a pulse or wave experimentally shown
  - 495 Propagation of sound from a bell to the ear
  - 496 Bell struck in vacuum
  - 497 Propagation of a pulse or wave in a tube
  - 498 Speaking-tube mouth-piece and whistle
  - 499 The invisible woman
  - 500 The horn of Alexander
  - 501 Speaking trumpet in the merchant service
  - 502 Ear trumpets
  - 503 Stethoscope (Koning's). Ganot, 187, 188
  - 504 Reflection of sound, diagram. Ganot, 185
  - 505 Reflection of sound. Echo
  - 506 Reflection of sound
  - 507 Reflection of sound by an elliptical roof
  - 508 Echo with seven repetitions
  - 509 Variation of echoes
  - 510 Refraction of sound
  - 511 Diagram of refraction by a sound lens
  - 512 Experiment to ascertain the velocity of sound in air
  - 513 Experiment to ascertain the velocity of sound in water
  - 514 Gyroscope producing series of taps or musical sounds
  - 515 Savart's toothed wheel experiment
  - 516 Savart's apparatus for producing low tones
  - 517 Rocking fire-shovel experiment
  - 518 Trevelyan's rocker
  - 519 Seebeck's syren
  - 520 Disc of Seebeck's syren with nine pipes
  - 521 Musical sound produced by tuning fork
  - 522 Simple method of showing vibration of tuning fork
  - 523 Graphic method of registering vibrations of a tuning fork
  - 524 Lissajous' method of showing vibrations of a tuning fork on a screen
  - 525 Diagram of sound waves produced by tuning fork
  - 526 Syren of Cagniard de la Tour
  - 527 Syren section
  - 528 Helmholtz's double syren
  - 529 Experiment showing the transmission of sounds by liquids
  - 530 Arrangements for sounding a pipe in a liquid
  - 531 Sonometer
  - 532 Weber's wave canal
  - 533 Vibrations and nodes in a string shown by damping the center
  - 534 Vibrations and nodes in a string shown by damping one-third
  - 535 Vibrations and nodes in a string shown by damping one-fourth
  - 536 Vibrations and nodes in a string shown by damping one-fifth
  - 537 Melde's experiment. String attached to tuning fork
  - 538 Vibrations and nodes produced by string in Melde's experiment
  - 539 Melde's experiment with the strain on the string varied
  - 540 Young's figures of vibrations of wires
  - 541 Transverse vibrations of a rod fixed at both ends.
  - 542 Transverse vibration of a rod fixed at one end
  - 543 Kaleidophone
  - 544 Pendulum vibrating in two directions
  - 545 Figures produced by the kaleidophone
  - 546 Diagram of vibrations of a wooden ruler
  - 547 Claque-bois
  - 548 Glass harmonicon
  - 549 Vibrations of a tuning fork
  - 550 Chladni's sand figures, method of showing vibrations of square plate
  - 551 Sand figures on four square plates held in the center
  - 552 Sand figures on four square plates held not in the center
  - 553 Three figures on square plates obtained with sand and gum
  - 554 Three figures on square plates with sand and lycopodium powder
  - 555 Sand figures on square plates
  - 556 Sand figures on plates of various forms
  - 557 Sand figures on membrane, produced by vibration of the air. Ganot, 227
  - 558 Sand figures on membranes
  - 559 Diagram of vibration of bell
  - 560 Proof of vibration of glass bell
  - 561 Vibrations of a metal clock bell
  - 562 Melde's experiment showing vibration of liquid molecules
  - 563 Faraday's experiment, vibrations of water impressed on a layer of sand
  - 564 Longitudinal vibration of a rod

- 565 Diagram of longitudinal vibrations of rods
- 566 Mariøe's harp
- 567 König's ocular demonstration of the longitudinal vibration of a rod
- 568 Fracture of glass tube by sonorous vibrations
- 569 Tube held and rubbed so as to produce its octave
- 570 Action of sonorous vibrations on polarized light
- 571 Resonance experiment, to ascertain the length of column that responds to a tuning fork
- 572 Jars of different heights which respond each to its own rate of vibration
- 573 Sonorous bell and cardboard resonator
- 574 Helmholtz's resonator
- 575 Musical note, generated by blowing across the mouth of a tube
- 576 Diagram of vibrations in stopped pipes, fundamental note and overtones
- 577 Pan's pipes
- 578 Square organ pipe and round stopped pipe
- 579 Organ pipe responding to excited tuning fork
- 580 Hopkins' experiment to ascertain the position of nodes in a vibrating column of air
- 581 Organ pipe with gas jets to ascertain the position of nodes
- 582 Diagram of vibrations in open pipes, fundamental note and overtones
- 583 Free reed
- 584 Organ pipe with free reed, and arrangement for experimentally altering the reed
- 585 Section of organ pipe with striking reed and arrangement for altering the reed
- 586 Vertical and horizontal section of glottis, vocal cords, &c
- 587 Vertical section showing the vocal organs
- 588 Müller's india-rubber imitation of vocal cords
- 589 Kundt's method of showing vibrations of a glass tube
- 590 Sound figures in glass tubes
- 591 Savart's experiment, musical flow of water through small apertures
- 592 Bunsen burner and tin tube for musical flame experiment
- 593 Glass tube for paper slider for musical flame experiment
- 594 Images of twinkling flame
- 595 Experiment for showing the image of twinkling musical flame
- 596 Blow pipe flame affected by whistle
- 597 Sensitive flames, fish tail burner
- 598 Sensitive flames, bat's wing burner
- 599 Experiments with sensitive flames from round apertures
- 600 Effect of sound of short duration on sensitive flame
- 601 Sensitive flame in its original and affected condition
- 602 Sensitive smoke jets
- 603 Sensitive water veins
- 604 Sensitive water jets
- 605 Propagation and reflection of liquid waves on the surface of an elliptical bath of mercury
- 606 Propagation and reflection of liquid waves on the surface of a circular bath of mercury
- 607 Diagram of vibrating tuning forks in a state of coincidence and interference
- 608 Experiment for dividing a stream of sound into two branches
- 609 Method of showing beats with two organ pipes
- 610 Simple method of compounding the vibration of two forks
- 611 Tracings of combination of two parallel vibratory movements
- 612 Tracings of combination of two rectangular vibratory movements
- 613 Apparatus for showing the action of beats of flame
- 614 Lissajous' method of showing beats of two tuning forks
- 615 Hopkins' experiment to show coincidence and interference of portions of a vibrating disc
- 616 Lissajous' experiment augmenting of sound of vibratory disc by holding hands over alternate sectors
- 617 Soundings and quenching a tuning fork experimentally shown
- 618 Lissajous' method of combining two rectangular vibrations
- 619 Lissajous' figures produced by the combination of two rectangular vibrations
- 620 Leon Scott's Phonautograph
- 621 Tracings by the Phonautograph
- 622 König's manometric flame apparatus
- 623 Manometric flames. Image of flame, fundamental note and octave. Ganot, 241, 242
- 624 Manometric flames. Image of flame, note and octave together, and note and third
- 625 Manometric flames. Image of flame, vowel *e* sung on note *c* and its octave. Ganot, 245, 246
- 626 Manometric flames. Image of flame, vowel *o* sung on note *c* and its octave. Ganot, 247, 248
- 627 Apparatus for the comparison of the vibratory movements of two sonorous tubes
- 628 König's apparatus for the analysis of sound. Ganot, 198
- 629 Helmholtz's apparatus for synthesis of sound. Ganot, 199
- 630 Detail of construction of Helmholtz's apparatus. Ganot, 200
- 631 Helmholtz's vibration microscope
- 632 Helmholtz's electro-magnet and tuning fork
- 633 Helmholtz's electro-magnet and tuning fork breaker
- 634 Rijke's experiment. Glass tube containing heated wire gauze
- 635 Chemical harmonicon
- 636 The human ear. Section of the bone and apparatus for hearing
- 637 The human ear. Labyrinth, cochlea, &c
- 638 Section of the cochlea
- 639 Musical box
- 640 Sistra of the ancient Egyptians
- 641 Old arrangement for chimes
- 642 Modern keyboard carillon at St. Germain, L'Auxerrois
- 643 The violin, longitudinal and transverse section
- 644 Savart's trapezoidal violin
- 645 African violin
- 646 Mechanism of the harp
- 647 The harp
- 648 Piano, mechanism of the hammers and keys
- 649 The flute, longitudinal and transverse section of mouth-piece
- 650 Clarinet and Hautboy
- 651 Trombone
- 652 Ophicleide
- 653 Cornet-a-piston and section
- 654 Forms of pipes of different stops in the organ
- 655 Wind chest furnished with pipes
- 656 Transversal section of sound board, wind chest and valve
- 657 Experimental organ
- 658 The Barbary organ
- 659 Wheatstone's telephonic concert at the Polytechnic
- 660 Graphic method of registering the vibrations of a violin string
- 661 Natural Gamut
- 662 Scale of equal temperament
- 663 Graphic method of representing a sound composed of a note and its octave

- 664 Graphic method of representing a sound composed of several sounds  
665 Phonautograph tracings. The vowels sung on note G; Clarinet; Trumpet

- 666 Tracings by the Logograph. Stanza from Hohenlinden  
667 Tracings by the Logograph, faintly, forcibly, ordinary, and loudly

- 668 Faber's Euphonia  
669 Steam Syren, or Fog-horn at South Foreland  
670 Portrait of Cbiadni

## LIGHT.

Selected and arranged by the Rev. PHILIP SLEEMAN, F.R.A.S., F.R.M.S., &c.

### PART I.

- 1 Rectilinear propagation of Light
- 2 Experiment illustrating rectilinear propagation
- 3 Formation of images by small apertures
- 4 Images of sun through openings in foliage
- 5 Reversed image of landscape
- 6 Cone of shadow of opaque body
- 7 Umbra and penumbra
- 8 Effects of umbra and penumbra. Chinese shadows
- 9 Intensity of illumination. Law of universe squares
- 10 Intensity of illumination. Law of the cosine
- 11 Rumford's photometer
- 12 Bunsen's photometer
- 13 Velocity of light. Roemer's observations
- 14 Velocity of light. Aberration
- 15 Velocity of light. Fizeau's experiment
- 16 Velocity of light. Foucault's experiment
- 17 Illustration of law of reflection
- 18 Experimental verification of the law of reflection
- 19 Artificial horizon
- 20 Reflection from plane mirror
- 21 Lateral inversion by reflection
- 22 Multiple images by two plane parallel mirrors
- 23 Multiple images by inclined mirrors
- 24 Multiple images by two surfaces of mirror
- 25 The kaleidoscope
- 26 Scattering of light by irregular reflection
- 27 The sextant
- 28 Explanation of the sextant
- 29 Goniometer. (Babinet's)
- 30 Magic telescope
- 31 Potemoscope
- 32 Silbermann's heliostat
- 33 Foucault's heliostat
- 34 Pepper's "Ghost"
- 35 Diagrams of foci of concave mirrors
- 36 Real image by concave mirror
- 37 Virtual image by concave mirror
- 38 Caustics by reflection
- 39 Images formed by convex mirrors
- 40 Cylindrical mirrors. Anamorphosis
- 41 Experiment illustrating refraction of light
- 42 Law of refraction and variation
- 43 Law of sines. Glass and water
- 44 Phenomena of refraction. (Bent stick)
- 45 Explanation of phenomena of refraction
- 46 Atmospheric refraction
- 47 Effects of refraction on sunset
- 48 Total reflection. Limiting angle
- 49 Phenomena of total reflection
- 50 Totally reflecting prisms
- 51 Illustration of total reflection by cut glass
- 52 The mirage
- 53 Explanation of the mirage
- 54 Deviation by refraction. (Parallel plate)
- 55 Deviation by refraction. (Successive media)
- 56 The prism
- 57 Deviation by prism
- 58 Explanation of deviation
- 59 Deviation and retardation
- 60 Index of refraction. DuRoi's apparatus
- 61 Index of refraction. Spectrometer
- 62 Lens considered as an assemblage of prisms
- 63 Converging and diverging lenses
- 64 Various foci for converging lenses
- 65 Principal foci of double and plano-convex lenses
- 66 Formation of image by converging lenses
- 67 Fresnel's lens
- 68 Lenticular apparatus of lighthouse
- 69 Diagram illustrating spherical aberration
- 70 Decomposition of light by prism
- 71 Necessity for use of narrow slit
- 72 Unequal refrangibility of different colors
- 73 Recomposition of light No. 1
- 74 Recomposition of light No. 2
- 75 Deviation without dispersion
- 76 Anomalous dispersion
- 77 Achromatic prisms
- 78 Chromatic aberration
- 79 Achromatic lenses
- 80 Spectroscope with reflected scale
- 81 Solar spectrum. (Fraunhofer)
- 82 Coincidences of Fraunhofer lines with those of sodium, &c
- 83 Chart of radiation spectra
- 84 Chart of absorption spectra
- 85 Thermal, luminous, and actinic rays in solar spectrum
- 86 Calorescence. Tyndall's apparatus. No. 1
- 87 Calorescence. Tyndall's apparatus. No. 2
- 88 Fluorescence
- 89 Fluorescent spectra
- 90 Phosphorescope
- 91 Phosphorescent spectra
- 92 Horizontal section of the eye-ball
- 93 Vertical mid-section of the eye-ball. No. 1
- 94 Vertical mid-section of the eye-ball. No. 2
- 95 Diagram of nervous and connective elements in retina
- 96 Diagrammatic section of macula lutea
- 97 Pigment cells from the choroid coat
- 98 The crystalline lens. Structure
- 99 The crystalline lens. Accommodation
- 100 Scheiner's experiment on accommodation
- 101 Formation of image on retina
- 102 Diagrams explaining long and short sight
- 103 Ophthalmoscope
- 104 Illustration of monocular and binocular vision
- 105 Diagram explaining binocular vision
- 106 Corresponding points on retina
- 107 Wheatstone's reflecting stereoscope
- 108 Brewster's refracting stereoscope
- 109 Helmholtz's lenticular stereoscope
- 110 Analogy between sound and light, illustrated by persistence of vision
- 111 Thaumatrope and Praxinoscope
- 112 Optical illusions
- 113 Subjective colors. (Nordenberg's apparatus)

- 114 Contrast colors. (Seina's apparatus)
- 115 Apparatus for mixing colored light. (Helmholtz)
- 116 Apparatus for mixing colored light. (Dove)
- 117 Complimentary colors
- 118 Dichroscopic lens. (Haidinger)
- 119 The Dichroscope. (Dove)
- 120 Spectre of white and colored strips
- 121 Helmholtz's analysis of compound colors
- 122 Maxwell's analysis of compound colors
- 123 Maxwell's color triangle, &c.
- 124 Color circle. (Von Bezold)
- 125 Diagram of color sensations. (Helmholtz)
- 126 The rainbow
- 127 Explanation of the rainbow
- 128 Refraction in rain-drops
- 129 Camera obscura
- 130 Photographic camera
- 131 Camera lucida
- 132 Magic Lantern
- 133 Bi-umial lantern for dissolving views
- 134 Duboseq's electric lantern
- 135 Foucault's and Duboseq's electric lamps
- 136 Duboseq's vertical lantern
- 137 Enlarged image produced by convex lens
- 138 Simple microscope. Magnifying glasses
- 139 The compound microscope
- 140 Achromatic eye-piece
- 141 Binocular microscopes
- 142 Rosse's complete binocular microscope
- 143 Solar microscope
- 144 Duboseq's lantern microscope
- 145 Use of Duboseq's microscope at siege of Paris
- 146 Galilean telescope. Opera glass
- 147 The astronomical telescope
- 148 The terrestrial telescope
- 149 Reflecting telescopes. No. 1
- 150 Reflecting telescopes. No. 2
- 151 The Rosse telescope
- 152 Diagram of plane wave
- 153 Movement of particles in advancing wave
- 154 Diagram of pendulum
- 155 Diagram of harmonic motion
- 156 Experimental illustration of wave-motion, No. 1
- 157 Experimental illustration of wave-motion, No. 2
- 158 Crova's wave-motion apparatus. Longitudinal
- 159 Crova's wave-motion apparatus. Transversal
- 160 Huyghens' principle of undulations
- 161 Huyghens' construction for reflection and refraction
- 162 Velocity of light in air and water. Foucault's experiment
- 163 Diagrams explaining interference of waves
- 164 Apparatus illustrating interference of waves
- 165 Weber's figure of interfering waves No. 1
- 166 Weber's figure of interfering waves, No. 2
- 167 Fresnel's mirror
- 168 Diagram of interference by Fresnel's mirror
- 169 Bi-prisms, &c., for interference experiments
- 170 Jamin's Interferential refractor
- 171 Colors of thin plates. Soap bubble
- 172 Diagram explaining colors of thin plates
- 173 Newton's rings
- 174 Diffraction of light
- 175 Diffraction fringes. Young's experiment
- 176 Diagram of interference by diffraction
- 177 Diffraction telescope and figures
- 178 Diffraction figures, No. 1
- 179 Diffraction figures, No. 2
- 180 Diagrams explaining diffraction fringes
- 181 Measurement of wave length. No. 1
- 182 Measurement of wave length. No. 2
- 183 Table of wave lengths
- 184 Diffraction spectre
- 185 Principle of diffraction gratings
- 187 Measurement of wave length by diffraction spectrum
- 187 Comparison of diffraction with prismatic spectrum
- 188 Phenomena of polarization by reflection
- 189 Reflecting polariscope
- 190 Polarizing angle and diagram of intensities
- 191 Illustration of meaning of "polarized" ray
- 192 Polarization by series of parallel plates
- 193 Polariscope with pile of plates
- 194 Norrenberg's polariscope
- 195 Planes of polarization and of vibration
- 196 Polarization by tourmalin
- 197 Illustration of "polarity" by iron filings
- 198 Crystal of Iceland spar, and double refraction
- 199 Diagram of double refraction in Iceland spar
- 200 Optic axis and principal section
- 201 Double image of aperture, projected on screen
- 202 Effect of rotating the crystal
- 203 Experiment showing opposite polarization of the two images
- 204 Experiment with plate of tourmalin
- 205 Apparatus for Huyghen's experiment
- 206 Phenomena of Huyghen's experiment
- 207 Ordinary and extraordinary rays
- 208 Huyghen's explanation of double refraction
- 209 Verification of law of double refraction
- 210 Ellipsoids of revolution. Positive and negative
- 211 Wave surface of positive crystal
- 212 Wave surface of negative crystal
- 213 Senarmont's isothermal lines in crystal
- 214 Sorby's uni-focal and bi-focal images
- 215 Achromatic double-image prisms
- 216 Senarmont's, Rochon's and Wollaston's prisms
- 217 Double image micrometer
- 218 Nicol's prisms. No. 1
- 219 Nicol's prisms and Foucault's modification
- 220 Arrangement of polarizer and analyzer
- 221 "Depolarization" by selenite film
- 222 Crystal of selenite and ideal structure
- 223 Diagram of waves within selenite film
- 224 Effect of rotating, 1.—Selenite. 2.—Analyzer
- 225 Complementary colors shown by double image prism
- 226 Diagram explaining complementary colors, No. 1
- 227 Diagram explaining complementary colors, No. 2
- 228 Wheatstone's polar clock
- 229 Sound vibrations in bar of glass revealed by polarized light
- 230 Presses for heating and compressing glass
- 231 Phenomena exhibited by compressed glass
- 232 Diagram explaining phenomena of compressed glass
- 233 Phenomena of unannealed glass. No. 1
- 234 Phenomena of unannealed glass. No. 2
- 235 Phenomena of unannealed glass. No. 3
- 236 Starch grains, by polarized light
- 237 Sections of wave surface of biaxial crystal
- 238 Intersecting wave surface in biaxial crystal
- 239 Conical refraction. Theory
- 240 Conical refraction. External
- 241 Conical refraction. Internal
- 242 Tourmalin pincette
- 243 Norrenberg's polariscope arranged for convergent light
- 244 Polari-microscope. (Hoffman)

- |   |  |  |
|---|--|--|
| <p>245 Phenomena of nuxal crystal by convergent light</p> <p>246 Explanation of rings and cross. No. 1</p> <p>247 Explanation of rings and cross. No. 2</p> <p>248 Phenomena of biaxial crystal by convergent light. No. 1</p> <p>249 Phenomena of biaxial crystal by convergent light. No. 2</p> <p>250 Lemniscate</p> <p>251 Measurement of angle of optic axes</p> <p>252 Table of angles of optic axes</p> <p>253 Dispersion of optic axes. No. 1</p> <p>254 Dispersion of optic axes. No. 2</p> <p>255 Phenomena of quartz plate in polarized light</p> <p>256 Diagram of succession of colors on rotating quartz plate</p> <p>257 Diagram of succession of colors on rotating analyzer</p> <p>258 Diagram of intensity of colors in quartz plate</p> <p>259 Diagram illustrating production of circular motion by two rectangular vibrations</p> <p>260 Vibration phases. Compound</p> <p>261 Diagram of spiral curve on cylinder</p> | <p>262 Wheatstone's apparatus for illustrating circular wave motion</p> <p>263 Apparatus for illustrating plane and circular wave-motion</p> <p>264 Right and left-handed quartz crystals</p> <p>265 Quartz wedges. Babinet's compensator</p> <p>266 Bands of color in quartz wedges</p> <p>267 Hyperbolæ exhibited by quartz plates</p> <p>268 Amethyst. Superposed laminae</p> <p>269 Phenomena of quartz in convergent light</p> <p>270 Airy's spirals</p> <p>271 Fresnel's rhomb</p> <p>272 Wheatstone's apparatus for circular polarization</p> <p>273 Dislocation of crystal rings by circularly polarized light</p> <p>274 Explanation of dislocation of crystal rings</p> <p>275 Stauroscope and Brezina plate</p> <p>276 Rotation of plane of polarization. Biot's apparatus</p> <p>277 Soleil's saccharometer</p> <p>278 Soleil's saccharometer. Section</p> <p>279 Wild's polaristrobometer</p> <p>280 Hoffmann's polarimeter</p> <p>281 Laurent's saccharometer</p> <p>282 Laurent's saccharometer Section</p> | <p>283 Electromagnetic rotation of plane of polarization. Faraday's experiment</p> <p>284 Electromagnetic rotation of plane of polarization. Verdet's apparatus</p> <p>285 Arago's polarimeter</p> <p>286 Haidinger's "brushes"</p> <p>287 Polariscopes for projection. Reflecting</p> <p>288 Polariscopes for projection. Dubosequi's</p> <p>289 Polarising apparatus with large Nicol prisms for projection with electric light. (Rev. P. Sleeman)</p> <p>290 Apparatus for spectra of polarized light</p> <p>291 Bands in spectra of polarized light. No. 1</p> <p>292 Bands in spectra of polarized light. No. 2</p> <p>293 Polariscopes with rotating analyzer. (Mach.)</p> <p>294 Selenite plate, seen with rotating analyzer</p> <p>295 Quartz plate, seen with rotating analyzer</p> <p>296 Spiral spectral bands, seen with rotating analyzer</p> <p>297 Identity of light and radiant heat. Reflection.</p> <p>298 Identity of light and radiant heat. Double refraction</p> <p>299 Identity of light and radiant heat. refraction</p> <p>300 Identity of light and radiant heat. Polarization</p> |
|---|--|--|

## ANIMALS AT THE ZOOLOGICAL GARDENS.

### \*LECTURE NUMBERS.

- |  |   |   |
|--|---|---|
| <p>1 *Polar Bear. <i>Thalassarcus maritimus</i></p> <p>2 *Sea Lion. <i>Otaria jubata</i></p> <p>3 *Sea Lion. <i>Otaria jubata</i></p> <p>4 *Brahmin Bull. <i>Bos indicus</i></p> <p>5 *Brahmin Cow</p> <p>6 Saiga Antelope. <i>Salga tatarica</i></p> <p>7 Springbok. <i>Gazella eudore</i></p> <p>8 *Leucoryx. <i>Oryx leucoryx</i></p> <p>9 Ibex. <i>Capra ibex</i></p> <p>10 Ibex. <i>Capra ibex</i></p> <p>11 Ibex. <i>Capra ibex</i></p> <p>12 *Eland. <i>Oreus canus</i></p> <p>13 Wapiti Deer. <i>Cervus canadensis</i></p> <p>14 Sambar Deer. <i>Cervus aristotellus</i></p> <p>15 Persian Deer. <i>Cervus maral</i></p> <p>16 *Camel. <i>Camel bactrianus</i></p> <p>17 Camel. <i>Camel bactrianus</i></p> <p>18 Camel. <i>Camel bactrianus</i></p> <p>19 *Dromedary. <i>Camelus dromedarius</i></p> <p>20 *Babylonian Lion. <i>Felis leo</i></p> <p>21 Lioness. <i>Felis leo</i></p> <p>22 Red Kangaroo. <i>Macropus rufus</i></p> <p>23 Yellow-footed Rock Kangaroo. <i>Procyon xanthopus</i></p> <p>24 Foxes</p> | <p>25 Black Leopard. <i>Felis leopardus</i></p> <p>26 Jaguar. <i>Felis onca</i></p> <p>27 Tiger. <i>Felis tigris</i></p> <p>28 Man with two Monkeys. Chimpanzee <i>Troglodytes niger</i></p> <p>29 Guinea Baboon. <i>Cynocephalus papio</i></p> <p>30 Guinea Baboon. <i>Cynocephalus papio</i></p> <p>31 Indian Python. <i>Python molurus</i></p> <p>32 *Common Boa. <i>Boa constrictor</i></p> <p>33 Teguxin Lizard. <i>Royal Python, Chameleon</i></p> <p>34 *Emeu. <i>Dromaeus novae hollandiae</i></p> <p>35 Ostrich. <i>Struthio camelus</i></p> <p>36 Crowned Harpy. <i>Harpyhalictus coronatus</i></p> <p>37 Sea Gulls and Cormorants</p> <p>38 Syrian Asses. <i>Equus hemionus</i></p> <p>39 *Indian Elephant. <i>Elephas indicus</i></p> <p>40 *Giraffe. <i>Camelopardus giraffe</i></p> <p>41 Bear up Pole. <i>Ursus americanus</i></p> <p>42 Burchell's Zebra (female). <i>Equus burchellii</i></p> <p>43 Burchell's Zebra (male). <i>Equus burchellii</i></p> | <p>44 Burchell's Zebra (female). <i>Equus burchellii</i></p> <p>45 Burchell's Zebra (male). <i>Equus burchellii</i></p> <p>46 Burchell's Zebra (female). <i>Equus burchellii</i></p> <p>47 *Quagga. <i>Equus quagga</i></p> <p>48 Quagga. <i>Equus quagga</i></p> <p>49 African Lion (standing). <i>Felis leo</i></p> <p>50 African Lion (lying down). <i>Felis leo</i></p> <p>51 African Lion (lying down). <i>Felis leo</i></p> <p>52 *African Lioness</p> <p>53 Indian Leopards. <i>Felis leopardus</i></p> <p>54 Pelican. <i>Pelecanus onocrotalus</i></p> <p>55 *African Elephant. <i>Elephas africanus</i></p> <p>56 African Elephant (kneeling). <i>Elephas africanus</i></p> <p>57 Jangar. <i>Felis onca</i></p> <p>58 Indian Elephant. <i>Elephas indicus</i></p> <p>59 *Indian Elephant (kneeling). <i>Elephas indicus</i></p> <p>60 Indian Elephant (with saddle). <i>Elephas indicus</i></p> <p>61 Hippopotami (male and female). <i>Hippopotamus amphibius</i></p> <p>62 *Hippopotami (male and female). <i>Hippopotamus amphibius</i></p> |
|--|---|---|

- 63 Hippopotamus (female). Hippopotamus amphibius
- 64 Hippopotamus (male). Hippopotamus amphibius
- 65 Zebra (female, with colt). Equus burchelli
- 66 \*Bear on Pole. Ursus Americanus
- 67 \*Wapiti Deer. Cervus Canadensis
- 68 Wapiti Deer. Cervus Canadensis
- 69 Swinhoe Deer. Cervus Swinhoei
- 70 Sea Lion. Otaria jubata
- 71 Barbary Deer. Cervus barbarus
- 72 \*Sing Sing Antelope. Kobus Sing Sing
- 73 \*Brindle Gnu. Catoblepas Gnu
- 74 \*Brindle Gnu. Catoblepas Gnu
- 75 \*Llama. Auchenia glama
- 76 \*Wolf. Canis lupus
- 77 \*Wart Hog. Phacochcerus ethiopicus
- 78 Wart Hog. Phacochcerus ethiopicus
- 79 \*Wild Boar. Sus Scrofa
- 80 \*Capthara. Hydrochcerus Capthara
- 81 \*Smoking Monkey. Macacous Adamensis
- 82 Sloth Bear. Metursus labiatus
- 83 Dromedary. Camelus Dromedarius
- 84 \*Marabou Storks. Leptoptilus crumeniferus
- 85 Saddle-billed Jarhiru. Myteria Senagalensis
- 86 Saddle-billed Jarhiru. Myteria Senagalensis
- 87 Stanley-Crane. Tetrapteryx paradiseus
- 88 \*Sarus Crane. Grus Antigone
- 89 \*White Pelican. Pelecanus oncoratalus
- 90 White Pelican. Pelecanus oncoratalus
- 91 Australian Pelican. Pelicanus conspicillatus
- 92 Carlama. Carlama Cristata
- 93 Carlama. Carlama Cristata
- 94 Prince Alfred's Deer. Cervus Alfredi
- 95 \*Porcupine. Hystrix cristata
- 96 Blson. Bos Americanus
- 97 Sea Lion. Otaria jubata
- 98 Rhinoceros. Rhinoceros unicornis
- 99 \*Rhinoceros. Rhinoceros unicornis
- 100 Rhinoceros. Rhinoceros unicornis
- 101 Polar Bear. Thalassarcotus maritimus
- 102 \*Syrian Bear. Ursus Syriacus
- 103 \*Cape Buffalo (male). Bubalus caffer
- 104 Cape Buffalo (female). Bubalus caffer
- 105 \*Common Buffalo. Bubalus bubalus
- 106 \*Gayal. Bos frontalis
- 107 Hybrid Gayal, between female Gayal and male Bos Indicus
- 108 Hybrid Gayal and Calf
- 109 Brahmin Cow and Calf
- 110 \*West African River Hog. Potamachcerus penicillatus
- 111 \*Collared Peccary. Dicotyles tajaca
- 112 Agouti Dasyprocta agouti
- 113 African Elephant. Elephas Africanus
- 114 Spotted Cavy. Coelogenys paca
- 115 Patagonian Cavy. Dolichotis patachonica
- 116 Viscacha. Lagostomus trichodactylus
- 117 Sumatran Porcupine. Hystrix longicaudata
- 118 Marabou Stork. Leptoptilus crumeniferus
- 119 Cape-crowned Crane. Balarica regulorum
- 120 White-handed Gibbon. Hylobates lar
- 121 Brown Crane. Grus Canadensis
- 122 \*Common Rhea. Rhea Americana
- 123 Typhon Heron. Ardea Sumatrana
- 124 Sandwich Island Geese. Chloephaga sandvicensis
- 125 \*Chimpanzee. Troglodytes niger
- 126 \*White-handed Gibbon. Hylobates lar
- 127 Hoolock Gibbon. Hylobates hoolock
- 128 Grivet Monkey. Cercopithecus. Presented to the Prince of Wales in Egypt
- 129 Maguari Stork. Ciconia maguari
- 130 Bless-hok. Darnalis albifrons
- 131 Huanaeo. Lama Huanaeo
- 132 Nyl-Ghale. Boselaphus pletus
- 133 Addax. Addax nasomaculatus
- 134 Anoa. Anoa depressicornis
- 135 Scemmering's Antelope. Gazella scemmeringi
- 136 Gihari Antelope. Nariotragus montanus
- 137 Isabelline Antelope (male). Cervicapra isabellina
- 138 Isabelline Antelope (female). Cervicapra isabellina
- 139 Dorcas Gazelle. Gazella dorcas
- 140 Persian Gazelle. Gazella subgutturosa
- 141 Barasingha Deer. Cervus duvaucelli
- 142 Red-Brocket. Cervus rufus
- 143 Markhoor. Capra megaceros
- 144 Hybrid Ibex, between capra megaceros and capra ibex
- 145 Aoudad. Ovis tragelaphus
- 146 Reeve's Muntjoe. Cervulus Reevesii
- 147 Sea Lion (with fish). Otaria jubata
- 148 Cape-eared Seal. Otaria pusilla
- 149 Grey Seal. Hallochcerus grypus
- 150 Llama. Lama peruana
- 151 Llama. Lama peruana
- 152 Vicuna. Lama vicuagva
- 153 Zebra and Colt. Equus Burchelli
- 154 Zebra and Colt. Equus Burchelli
- 155 Flamingoes. Phemecopterus antiquorum
- 156 Giraffes (male and female). Camelopardalis giraffa
- 157 Syrian Wild Ass. Equus hemippus
- 158 African Wild Ass. Equus tontopus
- 159 Tasmanian Devil. Thy-lacrius cynocephalus
- 160 Temminck's Snapper. Macrolemmys Temminckii
- 161 Wensel-headed Armadillo. Dasypros sexinctus
- 162 Kappeler's Armadillo. Patustia Kappeler
- 163 Blackfaced Kangaroo. Macropus melanops
- 164 Great Kangaroo. Macropus giganteus
- 165 Gaimard's Rat Kangaroo. Hypsiprymnus gaimardii
- 166 Egyptian Monitor. Monitor niloticus
- 167 Teguxin Lizard. Zelasteguexin
- 168 Great Cyclodus Lizard. Cyclodus gigas
- 169 Tuatera Lizard. Sphe-nodon punctatus
- 170 Knob-nosed Lizard and Chameleon
- 171 Stump-tailed Lizard. Trachydosaurus rugosus
- 172 Royal Python. Python regius
- 173 Sumatran Rhinoceros. Rhinoceros sumatrensis
- 174 African Leopard. Fells pardalis
- 175 African Leopard. Fells pardalis
- 176 Bengal Tiger (standing). Fells tigris
- 177 Bengal Tiger (lying down). Fells tigris
- 178 White-tailed Gnu. Catoblepas Gnu
- 179 Pelican. Pelecanus oncoratalus
- 180 African Elephant (female). Elephas Africanus
- 181 African Elephant (male). Elephas Africanus
- 182 African Elephants at the mounting steps
- 183 Whit Monday at the Zoo. The Elephants
- 184 Knob-nosed and Stump-tailed Lizards
- 185 Great Cecodius Lizards and Chameleon
- 186 African Elephant (saddled). Elephas Africanus

187 Jaguar. <i>Felis onca</i>	196 Koodoo ( <i>Strepsiceros kudud</i> )	205 White-handed Gibbon
188 Bengal Tiger. <i>Felis tigris</i>	197 Sahle Antelope ( <i>Odocoileus Niger</i> )	206 Arabian Baboon
189 Grey Seal. <i>Halichoerus grypus</i>	198 Belsa Antelope. <i>Aryx helsa</i>	207 Red Deer. <i>Cervus Elaphus</i>
190 Common Boa. <i>Boa constrictor</i>	199 Great Anteater. <i>Myrmecophaga jubata</i>	208 Rhesus Monkey
191 Red Kangaroo. <i>Macropus rufus</i>	200 Camel without humps	209 Lion Cubs
192 Llama. <i>Lama peruana</i>	201 Puma. <i>Felis concolor</i>	210 Female Hippopotamus (mouth open)
193 Apteryx, or wingless bird	202 Himalayan Bear. <i>Ursus thibetanus</i>	211 Female Hippopotamus and Young Guy Fawkes
194 Hippopotami and Young Guy Fawkes	203 Persian Lion. <i>Felis leo Persia</i>	212 Bactrian Camel with winter coat
195 Javan Rhinoceros ( <i>Rhinoceros sondaicus</i> )	204 Mourning Kangaroo. <i>Halmaturus luctuosus</i>	213 Black-necked Swans
		214 Llamas
		215 Alpacas

## EDWARD L. WILSON'S PERSONALLY PHOTOGRAPHED SLIDES OF EGYPT.

### Alexandria.

- 0 Map of the Nile
- 1 Moonlight on the Mediterranean
- 2 Abdullah the Arab
- 3 Aboard the "Bangalore"—Galley Cooks
- 4 Alexandria from the Steamer
- 5 Port of Alexandria—Farewell to the Bangalore—Khedives Yacht on the left
- 6 Custom House Quay
- 7 From the Arsenal—Galley Prisoners
- 8 Ras-El-Tin Palace and the Light-House
- 9 Mustapha Adli—our Arab Dragoman
- 10 Among the Bazaars
- 11 Arab Woman and Child
- 12 Equestrian Statue of Mohammed Ali—Grand Square
- 13 Group of Arab Beggars
- 14 An Alexandrian Home
- 15 Musselman Cemetery and hired Mourners, showing Pompey's Pillar
- 16 Pompey's Pillar
- 17 Mosque of El Gabarri
- 18 Irrigating Sakyeh
- 19 Arab Farm—Village near Alex's
- 20 Ancient Roman Bath
- 21 Mohammed El Adli, another Dragoman
- 22 Mahmoudieh Canal—Ferryboat
- 23 Sugar-Cane Boat on the Mahmoudieh Canal
- 24 Scene on the Mahmoudieh Canal
- 25 Egyptian Water-Carriers
- 26 Arab Quarter
- 27 The European and the American Quarter
- 28\* The Protestant Cemetery

### Cairo.

- 29 From the Citadel, toward the Pyramids
- 30 S. E. from the Citadel—"The rue Magnifique"
- 31 S. W. from the Citadel, toward the Mosque of Sultan Hassan

- 32\* Cairo and the Citadel, from the Mosque of Mohammed Ali
- 33\* Colonnade, Mosque of Mohammed Ali, Exterior
- 34 Colonnade, Mosque of Mohammed Ali, Interior
- 35 Ablution Fountain and Clock Tower, Mosque of Mohammed Ali
- 36\* Mosque of Mohammed Ali (where the Koran is read), Interior
- 37 Tomb of Mohammed Ali—Interior of the Mosque
- 38 Mosque of Mohammed Ali, Exterior
- 39\* Mosque of Gama-El-Zaher
- 40 Gate of the Citadel
- 41 Citadel of Cairo—General View
- 42 Mosque of Sultan Hassan, Exterior
- 43\* Arabic Doorway—Mosque of Sultan Hassan
- 44\* Arab Priest Reading the Koran—Mosque of Sultan Hassan
- 45 Interior, Mosque of Sultan Hassan, Moslems at Prayer
- 46 New and Old Mosques of Sultan Hassan
- 47 Egyptian Woman and Child
- 48 Carfene Funeral Procession
- 49 Egyptian Lady (Veiled) and Donkey
- 50 Egyptian Lady (Unveiled) and Donkey
- 51 Equestrian Statue of Ibraheem Pasha
- 52 View in the Moske—Latticed Windows
- 53 Modern Arabic Bazaars
- 54 American Mission House
- 55\* American Mission School, Girls
- 56\* American Mission School, Boys
- 57 Arabian Horse—"Dervish" and his Sals
- 58 An Egyptian Dwarf and Giant
- 59 The Lemonade Merchant
- 60 The Prize Beggar, Facade (Fore)

- 61 The Prize Beggar, Ab-side (Aft)
- 62 Cairo Canines and Smithy
- 63 Modern Arabic Palace, Exterior
- 64 Modern Arabic Palace, The Smoking Room
- 65 Modern Arabic Palace, The Court
- 66 Modern Arabic Palace, The Inlaid Door
- 67 Modern Arabic Palace, The Latticed Balcony
- 68 Modern Arabic Palace, The Windows
- 69 Modern Arabic Palace, The Balcony, Exterior
- 70 Modern Arabic Palace, The Bronze Door
- 71 An Egyptian Money Changer
- 72 At the Banker's Door—Arab Group
- 73 Watchman at the Palace Gate
- 74 Arab Sals and Watchman
- 75\* Mosque of Abou Har-ribe
- 76 Mosque and Tomb of Zalzazena
- 77 An Egyptian Woman (Veiled)
- 78\* An Egyptian Woman (Unveiled)
- 79 The Kasr-En-Nil Bridge
- 80 Instantaneous View on the Kasr-En-Nil
- 81 Instantaneous view on the Kasr-En-Nil
- 82 Eight Donkeys and their Drivers, Instantaneous
- 83 An Egyptian Sheep Market at the Kasr-En-Nil
- 84 An Egyptian Bread-Seller at the Kasr-En-Nil

### The Pyramids.

- 85 Avenue of Palms—Pyramid Road
- 86 Avenue of Acacias—Pyramid Road
- 87 Pyramid of Cheops (reflected in the water)
- 88 Pyramid of Cheop—near view
- 89 Looking up the Pyramid of Cheops
- 90 Climbing the Pyramid of Cheops
- 91 Climbing the Pyramid of Cheops

- 92 Group on the Summit of Cheops  
93 Prospecting on Top of Cheops, toward the Second Pyramid  
94 Prospecting on Top of Cheops, showing the Desert and the Sphinx  
95 Prospecting on Top of Cheops, toward the Kiosk  
96 Pyramid of Cephren from Cheops  
97\*Summit of the Great Pyramid from the Halfway Rest  
98\*Pyramid of Cheops—Lateral View  
99 Pyramid of Cheops—Entrance and El-Mamoon's Hole  
100 Pyramid of Cheops—Entrance Close View  
101\*Grand Gallery—Interior of the Pyramid of Cheops  
102\*The King's Chamber—Pyramid of Cheops with the coffin  
103 The Pyramid of Cheops from Pyramid of Cephren  
104 Photographing the Pyramids of Cephren and Mencheres  
105 Fallen Casing of the Pyramid of Mencheres  
106\*Group of three Small Pyramids  
107\*Details of Small Pyramids  
108 Pyramids of Cheops, Cephren and Mencheres from the East  
109 Ruined Temple and Pyramid of Cephren  
110 The Pyramid of Cheops and the Sphinx  
111 Photographing the Sphinx and the 2d and 3d Pyramids  
112 Travelers halting on Camels at the Sphinx  
113 The Sphinx and Pyramid of Mencheres  
114 The Sphinx—Front  
115 The Sphinx—Side  
116 The Sphinx—Rear  
117 The Sphinx—Tomb and Pyramid of Cheops  
118 Last Look at the Sphinx, Pyramid of Cheops and Tomb  
119 Mohammedan Cemetery, Pyramid and Desert  
120 Rock Tombs and Kafr Village at Pyramids  
121 \*Kafr (Bedouin) Village and Pyramid  
122 \*Home of the Pyramid Sheikh
- Heliopolis.**  
123 Egyptian Plow and Team  
124 The Obelisk  
125 Trees of the Virgin—Trunk  
126 Trees of the Virgin—Full
- Cairo Continued.**  
127 Tomb of Caliph Sultan Garribe  
128 Tomb of Caliph Barrook
- 129 Tomb of Caliph Alla Own  
130 Tomb of Caliph Alla Own Pulpit  
131 \*Tombs of the Caliphs. General View  
132 Tomb of Sherref Pasha
- The Nile. (Egypt.)**  
133 The Nile Steamer, Beni Soueff—The Start from Kasr-Eu-Nil  
134 \*The Island of Rhoda  
135 The Island of Rhoda  
136 \*Double Sugar-Cane Bouts  
137 \*Dahabieh on the Nile  
138 \*Dahabieh on the Nile  
139 Site of Ancient Memphis  
140 Pyramids of Gizeh from Sakkarah  
141 The Step Pyramid of Sakkarah  
142 Pyramids, South of Sakkarah from Step Pyramid  
143 The Tomb of Tih  
144 \*The Tomb of Apis  
145 \*Portrait of M. Malrette Pascha  
146 \*Pyramid of Maydoom from the Nile  
147 Sugar Mill at Minieh  
148 \*Minieh on the Nile  
149 Speos Artemedios—Tombs of Beni Hassan  
150 First Tomb—Beni Hassan  
151 Interior of Tombs at Beni Hassan  
152 Lotus Columns at the Tombs of Beni Hassan  
153 The Virgin of Beni Hassan—(An Egyptian Girl)  
154 Harbor of Assiout—A  
155 Harbor of Assiout—B  
156 Camel Bazaar—Assiout  
157 Camel Market—Assiout  
158\* Tomb Stabi Antar—Assiout  
159\* "St. John's Cell"—Assiout  
160 The Desert from the Tombs—Assiout  
161 Egyptian Cemetery and Oasis—Assiout  
162 Assiout from the Mount of Tombs  
163 Temple of Osiris—Abydos  
164 Temple of Osiris—Engraved Alabaster  
165 Temple of Osiris—Engraved Alabaster  
166 Temple of Osiris—Hieroglyphics  
167 Temple of Osiris—Alabaster Stairway  
168 Temple of Sethi I—Abydos Entrance  
169 Temple of Sethi I—Hall of Columns  
170 Temple of Sethi I—Roof Construction  
171—Temple of Sethi I—Tablet of the Kings  
172\* Temple of Sethi I—"A Bit of Color"  
173 Old and New Structures at Abydos  
174 An Arabic Doorway—Keneh
- 175—An Arab Maiden—Keneh  
176 Water-jar Potter at his Wheel—Keneh  
177 Boat Load of Water Jars—Keneh—Evening  
178 Temple of Denderah—First Sight  
179 Temple of Denderah—The Pylon  
180 Temple of Denderah—N Facade  
181 Plan of the Temple of Denderah  
182 Temple of Denderah—Entrance—Hall of Columns  
183 Temple of Denderah—Inside—Hall of Columns  
184 Temple of Denderah—Interior Facade and Hall  
185\* Temple of Denderah—Zodiac Ceiling with Face of Hathor  
186 Temple of Denderah—Interior Hall  
187 Temple of Denderah—Funeral Chamber (magnum)  
188 Temple of Denderah—Roof  
189 Temple of Denderah—South Wall  
190 Temple of Denderah—Cornice and Wall  
191 Small Temple of Osiris at Denderah with modern ruins  
192 The Temple of Luxor—Colonnade  
193 The Temple of Luxor—Pylon  
194 The Obelisk of Luxor and Pylon  
195 Female Fantasia Dancer—Luxor  
196 Hahnefa—Female Dancer, Luxor  
197 Hahnefa—Female Dancer, Luxor—full figure  
198 Fatima—Female Dancer, Luxor—full figure  
199\* Zahoo, Fantasia Female Dancer  
200\* Protestant Mission School, Luxor  
201\* Map of the Ruins, Karnak  
202 Avenue of Sphinxes—Karnak  
203 Portal of the Temple—Karnak  
204 Open Area (B) and Single Column—Karnak  
205 Hall of Columns (F)—Karnak  
206 The Fallen Column—Karnak  
207 Details of Capital—Hall of Columns (Karnak)  
208 Columns and Obelisks (N L) "vs e grand"—Karnak  
209 Photographing over difficulties—Karnak  
210 Grand Hall and Obelisks from the southeast—Karnak  
211 Fallen and Great Obelisks  
212 Hypostyle Hall (F) and Obelisks (C) from southeast



- 213 Reversed Capitals and Cornice
- 214 General View of Karnak from the South
- 215\* General View of Karnak and the Lake
- 216 The two Standing Obelisks—Karnak
- 217 Karnak—East View of the Hypostyle Hall (exterior)
- 218 The Borders of Thebes—
- 219\* Temple of Koorneh—Thebes (Facade)
- 220\* Temple of Koorneh—Thebes (Rear)
- 221 Temple of Koorneh—Thebes (Rear details)
- 222 Temple of Koorneh—Thebes (Hall of Columns)
- 223 The Rameseum—Thebes
- 224 The Rameseum—Grand Hall (Fallen Rameses)
- 225 Broken Statue of Rameses
- 226 A broken Head of a broken Race—Rameseum
- 227 The Colossi of Thebes—(Face) from the South
- 228 The Colossi of Thebes—(Face) from the North
- 229 The Colossi of Thebes—Back
- 230 The Southern Colossus of Thebes
- 231 The Vocal Memnon—Thebes
- 232 Medinet Ahou—General View
- 233 Medinet Ahou—The Palace Court from southeast (the Christian Colonnade)
- 234 Medinet Ahou—First Court (Temple of Rameses III)
- 235\* Medinet Ahou—Sculpture (Battle with the Syrians)
- 236 Medinet Ahou—Palace of the King (Round and Square Columns)
- 237 Medinet Ahou—Broken Column (Temple of Rameses III)
- 238 Medinet Ahou—Rear Court from the Roof
- 239 Medinet Ahou—Naval Combat
- 240 Deir-El-Medineh
- 241 Deir-El-Medineh—Roman Arch
- 242 Arah Water-Carrier. Girls—Fatimah, Miriam and Zenobia
- 243 Schelck-Abd-el-Goornah
- 244 Dayr-El-Bahree and Temple of Hatsou
- 245 Chamber of the mummies—Found 1881
- 246 Group of Mess. Maspero—Brugsch and Arabs at the Scene of Great Find of 1881
- 247\* Inscription Found in Mummy's Hiding Place—(Right)
- 248\* Inscription Found in Mummy's Hiding Place—(Left)
- 249\* Tomb of Rameses III—Bab-El-Malouk
- 250\* Tomb of Rameses III—Entrance—Bab-El-Malouk
- 251\* Sarcophagus of Rameses III
- 252 Tomb of Rameses III
- 253\* The Harpist's Chamber—Entrance Wall—Tomb of Seth I
- 254 Tomb of Seth I—Scarabee
- 255 Tomb of Seth I—A Corner
- 256 Tomb of Seth I—Decapitation Scene
- 257 Tourist's Lunch—Tomb No. 18—Bab-El-Malouk
- 258 Overlooking Bab-El-Malouk, Including Tombs of Rameses III and Seth I
- 259 The Plain of Thebes—from Bab-El-Malouk
- 260 Luxor from the Theban Plain—Evening
- 261 Luxor and the Nile
- 262 A Street in Esneh
- 263\* Arabic Doorway—Esneh
- 264 Interior of the Temple—Esneh
- 265 Temple of Edfou—Pylon
- 266\* Temple of Edfou—Hypostyl Hall
- 267 Temple of Edfou—Grand Facade from the Hypostyl Hall
- 268 Temple of Edfou—New Year Chapel
- 269 Temple of Edfou—The Shrine
- 270 Temple of Edfou—Processional Stairway, West
- 271 Temple of Edfou—Processional Stairway, East
- 272 Temple of Edfou—Outer and Inner Walls
- 273 Temple of Edfou—Construction Plan, Interior from the roof
- 274 Edfou from the Temple Wall
- 275 Assouan—North
- 276 Assouan Harbor—South
- 277 A Cudro Bazaar—Assouan
- 278 A Pottery Bazaar—Assouan
- 279 A Nubian Girl—Assouan
- 280 Nubian Curly Heads—Assouan
- 281 Nubian Habit-Seller—Assouan
- 282\* Elephantine Island
- 283 Nubian Children—Elephantine Island with Statue of Men-Ephta. Son of Rameses II
- 284 Ptolemaic Temple—Assouan
- 285 The Quarry of Syene—Assouan
- 286 Unfinished Obelisk—Assouan
- 287 Moslem Cemetery, near Assouan
- 288 Old Watch Tower—on the Assouan and Philae Road (Profile of the Warden)
- 289 Old Roman Wall—on the Philae and Assouan Road
- 290 A Nubian Donkey Group
- 291 Our Donkey "telegraph"
- 292 First Glimpse of Philae
- 293 Pharaoh's Bed—Philae from E Shore.
- 294 Ruins of Philae, from the North.
- 295 Ruins of Philae, from the South.
- 296 Pharaoh's Bed—through the Pylon
- 297\* Pharaoh's Bed—Finished and unfinished panels.
- 298 Pharaoh's Bed—"The Grape Capital."
- 299 Pharaoh's Bed—Interior.
- 300 Pharaoh's Bed—Moonlight effect.
- 301 Philae—East Colonnade—each Capital different and some unfinished.
- 302 Philae—West Colonnade from the South.
- 303 Philae—West Colonnade—toward Biggeh.
- 304 Philae—West Colonnade and Biggeh.
- 305 Philae—Colonnade and Obelisk—south end.
- 306 Philae—South Colonnade and Pharaoh's Bed.
- 307 "View Magnificent"—Philae. The Artist's Choice.
- 308\* Philae Temple—1st Propylon.
- 309 Philae Temple—2d Propylon.
- 310 Ptolemaic Land Grant Stone.
- 311\* Temple of Isis—west side Ext.
- 312 Isis Suckling Ptolemy—west wall.
- 313\* Copy of the Rosetta Stone.
- 314\* Resurrection of Osiris—Sanctuary Temple.
- 315\* Crossing the Syx.
- 316 Our Artist at work on Isis Temple, and what he saw.
- 317 The Nile—North from the Temple of Isis (Desolation).
- 318 The Nile and Philae—East from the Temple of Isis.
- 319 The Nile and Colonnade—South from the Temple of Isis.
- 320 Biggeh from the Temple of Isis.
- 321\* The lovely Cornice—Small Temple, Philae.
- 322 Ruins of a Christian Church, Philae.
- 323 A Classic Group—Philae (a broken Sphinx and Obelisk).
- 324 Biggeh—Ancient and Modern Temple.
- 325 Biggeh—Through the Ruins to Philae.
- 326 Ruins of Philae from Biggeh.
- 327 First Cataract of the Nile.
- 328 First Cataract of the Nile—Instantaneous.
- 329 Rapids—First Cataract of the Nile—Instantaneous
- 330 Natives Shooting the Rapids—First Cataract.

- 331 First Cataract of the Nile—General View.  
 332 Island of Philæ from the First Cataract.  
 333 "Pretty Teeth"—Our Cataract Boatman.  
 334 "Achmed"—Our Nubian Dragoman.  
 335 A Stranded Dahabieh—Near Philæ.  
 336 Departing View of Philæ—From the Southern Shore.

### The Nile (Nubia).

- 337 Temple of Dabod.  
 338 Nubian Water Vessels—Dabod.  
 339 Gertasse—The Quarry.  
 340 Gertasse—The Temple.  
 341 Moonlight at Gertasse.  
 342\* Kalabsheh—The Temple.  
 343 Kalabsheh—Temple Interior and Inscription.  
 344 Kalabsheh—The little Breadmaker.  
 345\* Kalabsheh—Wall Writings.  
 346 Dendoor—Temple (Full).  
 347 Dendoor—Temple (Detail).  
 348 Kirscheh—Temple (Exterior).  
 349\* Kirscheh—Temple (Interior).  
 350 The Nile at Kirscheh.  
 351 Dakkeh—The Temple.  
 352 Maharrakah—The Temple.  
 353 A Sakkiyeh at Maharrakah.  
 354 Wady Sabodah—Temple.  
 355 Nile Steamer "Saidieh."  
 356 Korosko—Stores of the Desert.  
 357 Korosko—A Caravan Village.  
 358 From Mount Korosko across the Nile.  
 359 Korosko and the Nile from Mount Korosko.  
 360 From Mount Korosko toward Mecca.  
 361\* The "Mecca" Palanquin.  
 362 A Nile Sakkiyeh—River side.  
 363 A Nile Sakkiyeh—The Team.  
 364 A Nile Sakkiyeh—Exit Drain.  
 365 Irrigating Ditches on a Nile Farm.  
 366 Watch Tower and Irrigated Fields.  
 367 A Nile Farm—Korosko.  
 368 A'Mada—The Temple.  
 369 Desert of the Nile from A'Mada.  
 370 Derr—Temple (Exterior).  
 371 Derr—Temple (Interior).  
 372 The Dahabieh "Sesostris"—Full Sail.  
 373 The "Sesostris"—Furling Sail.  
 374 The "Sesostris"—"In Tow."  
 375 The Dahabieh Sesostris—Cabin Interior.  
 376 Deck of the Dahabieh Sesostris.  
 377 The "Sesostris" Coffee-Miller.

- 378 Alle-Hanna and His Feet—(Aboard the Sesostris).  
 379 His Feet and Alle-Hanna—(Aboard the Sesostris).  
 380 The "Saidieh"—Docked at Ibream—the Arab Captain on the bridge.  
 381 Ruined Roman Church—Ibream.  
 382 Ruined Castle—Ibream.  
 383 Abou Simbel Temples from the Nile.  
 384 Abou Simbel—The Great Temple from the Nile.  
 385 Abou Simbel—The Small Temple—Facade.  
 386 Abou Simbel—Entrance to the Small Temple.  
 387 Queen Nofretari—Small Temple at Abou Simbel.  
 388 Abou Simbel—The Small Temple Interior.  
 389\* Nofretari Offering Flowers to Hathor—Interior of the Small Temple.  
 390 Abou Simbel—The Great Temple.  
 391 Abou Simbel—The Great Temple from the north side.  
 392 Abou Simbel—The Great Temple from the south side (Perilous View).  
 393 Colossal figure No. 1.  
 394 Colossal figure No. 2.  
 395 Colossal figure No. 3.  
 396 Colossal figure No. 4.  
 397 Colossus—Full Figure of No. 1.  
 398 Colossus—Details of Arm.  
 399 Colossus—Feet and Legs.  
 400 Colossus—The Fallen Crown.  
 401 Colossus—Distorted Head to show Nubian type of No. 3.  
 402 Group of 10 Travelers in the lap of Colossus No. 3.  
 403 Abou Simbel—Great Temple Doorway.  
 404 Abou Simbel—Inscription and Figures at right of Doorway.  
 405 Abou Simbel—Interior 1st Chamber Great Temple.  
 406 Abou Simbel—Profile of Osiris—shadowed.  
 407\* Abou Simbel—Entrance to the Sanctuary.  
 408 Abou Simbel—Inner Sanctuary.  
 409 Abou Simbel—Wall Inscription—Rameses Slaying His Enemies.  
 410 Wady Halfa.  
 411 Sifting Grain—Wady Halfa.  
 412 Group of Nubian Women—Wady Halfa.  
 413 Second Cataract of the Nile and Mt. Abou-Seer north.  
 414 Second Cataract of the Nile and Mt. Abou-Seer south.  
 415\* Second Cataract of the Nile.  
 416 Second Cataract of the Nile—Rapids near the Gorge of Abou-Seer.

- 417 Second Cataract of the Nile—The Stranded Boat.  
 418 The "Sesostris" in tow again.  
 419 The Two Arab Pilots of Nilus.  
 420 Return to Cairo—At the Kasr-en-Nil.  
 421\* Boulak—From the Kasr-en-Nil.  
 422 Tomb of Mariette Pasha—Boulak.  
 423 Boulak Museum—Entrance.  
 424 Boulak Museum—Grand Vestibule.  
 425 Head of Statue of Menepshah.  
 426 Thotmes III as Sphynx.  
 427 Engraved Stone and Painted Wood Mummy Cases—Hor-em-heb.  
 428 Unfinished Statue.  
 429 Black Sphynx Hykshos (small).  
 430 Osiris, Hathor and Isis.  
 431 Saloon of the Ancient Empire—Entrance showing interior of Mummy Cases and the Scribe.  
 432\* Saloon of the Ancient Empire.  
 433 Statue of King Chefnen—Front.  
 434 Statue of King Chefnen. Builder of the Great Pyramid—Profile.  
 435 Statue of Ra-Nefer.  
 436 Married Couple—Ra Hotep and the Lady Nefer-t.  
 437 Wooden Statue of Sheykh-El-Beled.  
 438\* Antique Wood Carving from Sakkarah.  
 439 Case of Curios—Tools, Eggs, Furniture, Nuts, Fruit, etc.—Boulak Museum.  
 440\* Case of Pottery—Boulak Museum.  
 441 Stela of Hatasou Suckled by Apis.  
 442 Cleopatra in the Costume of Isis.  
 443\* Cleopatra as Queen.  
 444\* Gold-Faced Mummy Case of Queen Nofretari.  
 445\* Mummies and Mummy Cases of the Kings.  
 446\* Mummy in the Case of the High Priest Nebnesi-tem—Profile.  
 447\* Mummy Head of Ptoletem—Profile.  
 448\* Mummy Head of Ptoletem—Front.  
 449 A Royal Mummy Head—King.  
 450 A Royal Mummy Head—Queen.  
 451 A Royal Nest of Eggs.  
 452\* Papyrus Plate 1.  
 453\* Papyrus Plate 2.  
 454\* Papyrus Plate 3.  
 455\* A Bit of Arabic Color.  
 456\* A Bit of Arabic Color.  
 457\* Ancient Arabic Designs.  
 458\* Ancient Arabic Designs.  
 459\* A Study in Arabic Architecture.

460\* A Study in Arabic Architecture.  
461 Pulling for Home—At

Alexandria—The English War Fleet Entering the Harbor.

462 Farewell to the Orient—The Khedive's Yacht.  
463 A Map of Egypt.

+ All marked thus are of the "New Find" of July, 1881.

## THE GREAT PYRAMIDS.

BY PIAZZI SMITH.

These are without question the finest slides of the Pyramids and their interiors ever manufactured by any one, and are somewhat rare; we are obliged to list them at 75 cents each.

- |  |   |   |
|--|---|---|
| 1 New Excavations of King Shafre's Granite Tomb.   | 15 Mouth of Entrance Passage leading into Great Pyramid.  | 32 The Northeast Corner of the Great Pyramid.                     |
| 2 Second Pyramid.  | 16 The Third and Fifth Pyramids of Jeezeh.  | 33 The Great Pyramid and the Second Pyramid.                      |
| 3 Second and Third Pyramids.   | 17 North Front of Great Pyramid.  | 34 Alee Dobre, Pyramid Arah, at East Tombs, Pyramid Hill.         |
| 4 Entrance Passage, (deep in sand and granite-lined) of King Shafre's Granite Tomb.      | 18 Mouth of the Entrance Passage.   | 35 The Close of the Day at the Pyramid Hill.                      |
| 5 Alee Dobre cogitating amid the square pillar Colonnades of King Shafre's Granite Tomb. | 19 The Angle Stones over the Mouth of the Entrance Passage.   | 36 View at East Tombs.  |
| 6 Well Chamber of King Shafre's Granite Tomb four minutes before noon.                   | 20 Ibrahim the Cook at the door of his Tomb Kitchen   | 37 The Second Pyramid from King Shafre's Granite Tomb.            |
| 7 Well Chamber of King Shafre's Granite Tomb at and before and after noon.               | 21 Sand Slope leading to West Entrance into King Shafre's Granite Tomb.   | 38 All the Pyramids of Jeezeh.                                    |
| 8 Well Chamber of King Shafre's Granite Tomb, four minutes after noon.                   | 22 Side View of Beginning of Slope of Entrance Passage into Great Pyramid.  | 39 The Southern Hill and the Three Tree Valley.                   |
| 9 The Western Aisle of King Shafre's Granite Tomb.                                       | 23 Distant View of the Great Pyramid and the Second Pyramid, from the Petrified Shell Hills several miles to the south. | 40 The Corner-Stone Socket.                                       |
| 10 The Great Sphinx.   | 24 A Portion of the Granite Casing in situ of the Third Pyramid.  | 41 The Southeast Corner Socket-hole of the Great Pyramid.         |
| 11 Coffin in King's Chamber of Great Pyramid.  | 25 A Burial Cove.   | 42 Southwest Corner Socket-hole of the Great Pyramid.             |
| 12 Coffin in King's Chamber of Great Pyramid, and Ghosts of Arabs.                       | 26 Alee Dobre, Pyramid Arah   | 43 The Northwest Socket-hole of the Great Pyramid.                |
| 13 The Broken Southeast Corner of Coffin in King's Chamber in Great Pyramid.             | 27 Engraved Vertical Section of Great Pyramid.  | 44 The Northeast Socket-hole of the Great Pyramid.                |
| 14 Base of Niche in Queen's Chamber, Great Pyramid                                       | 28 The Great Pyramid and its Hill of Rifled Tombs.  | 45 The Great Pyramid.   |
|  | 29 The Southwest Corner of the Great Pyramid.   | 46 Part of the Western Excavated Enclosure of the Second Pyramid. |
|  | 30 The Palm Trees of Egypt.   | 47 Abdul Samud, Pyramid Sheikh of the Northern Pyramid Village.   |
|  | 31 The Eastern and Northern Faces of the Great Pyramid.   | 48 Engraved Vertical Section of King's Chamber.                   |

## EDWARD L. WILSON'S PERSONALLY PHOTOGRAPHED SLIDES OF THE SINAI PENINSULA AND ARABIA.

### FOLLOWING MOSES TO THE PROMISED LAND.

#### Suez (in Goshen) to Mount Sinai.

- |  |   |   |
|--|---|---|
| 1 The Old Wreck—Suez.                          | 10 The Egyptian—Arabian Red Sea Ferryboat.        | 22 A Seaward Glimpse from "The Camp by the Sea."                                |
| 2 Panorama of Suez from the Hotel              | 11 Egyptian Quarantine Camp—Arabian side.         | 23 The Mountains around "The Camp by the Sea."                                  |
| 3 "The Street called Straight"—Suez.           | 12 Ayūn Mûsa—Well of Moses (one Palm)             | 24 The Last Sight of the Sea and Egypt before entering the Wilderness of "Sin". |
| 4 Arab Beggars in the Mosque Court—Suez        | 13 Ayūn Mûsa—Well of Moses (three Palms).         | 25* The Egyptian Temple Ruins—Wady Kenah  |
| 5 Fatimah—Arab Girl Pet (Suez).                | 14* The Dead Camel—Well of Moses (Arabia)         | 26 Bedouin Woman and Camel.   |
| 6 The Water-Carrier, with his Water-skin—Suez. | 15 A Desert Caravan—The Start.                    | 27 "The Rock of Moses"—Hes-el-Khattâteen (Ex. xvii. 6).                         |
| 7 Group of Bedouin Children—Suez.              | 16 Ain Hawârah—Marah.                             | 28 A Garden in Wady Feiran—Cutting Grain.                                       |
| 8* Junction of the Suez Canal and the Red Sea. | 17* The Wells of Elim.                            | 29 From Mount Serhal Summit toward Egypt.                                       |
| 9 Quarantine Quarters—Suez Canal.              | 18 The Great Well at Elim.                        |   |
|  | 19 The Hills about Elim.                          |   |
|  | 20 Wady Talyih (Elim).                            |   |
|  | 21 "The Encampment by the Sea" Râs Abou Zene-meh. |   |

- 30 From Mount Serbal Summit toward Wady Feiran.
- 31 From Mount Serbal Summit toward Mount Sinai.
- 32 From Mount Serbal Summit toward Suez (showing the route).
- 33 From Mount Serbal—showing the Mount Sinai Group.
- 34 The Gorge—Descending Mount Serbal.
- 35 Jebel at Tahoonch—Wady Feiran.
- 36 Gum-Arabic Tree—Wady Feiran.
- 37 Shittim-Wood Tree—Wady Feiran.
- 38 Jebel el Maharrad—"The Mountain of Moses" (West).
- 39 Jebel el Maharrad—"The Mountain of Moses" (Southeast).
- 40 The Amalekite Battlefield from the Mount of Moses.
- 41 The Amalekite Battlefield from the Mount of Moses—Showing where the Amalekites lived, and where we camped.
- 42 Ruined Stone Houses—Wady Feiran.
- 43 Caves of the Anchorites—Jebel-Tahoonch—Wady Feiran.
- 44 A Garden in Wady Feiran Arab gathering Manna.
- 45 Climbing toward Mount Sinai.
- 46 The Mount Sinai Range, from the West.
- 47 Nukb Hawa—"Pass of the Wind," near Sinai.
- 48 Climbing up Nukb Hawa with Camels.
- 49 The Fountain in Nukb Hawa, with Arab Camel-eer drinking.
- 50 Descending Nukb Hawa on Camels, toward Mount Sinai.
- 51 The Mount Sinai Group, from above the Plain of Er-Raha.
- 52 A Nawami (Rock) House and Bedouin Camp—Plain of Er-Raha.
- 53 Our Camp at Mount Sinai.
- 54 Convent of St. Katherine and Jebel-el-Moneijah.
- 55 Garden of the Convent of St. Katherine and Jebel-el-Moneijah.
- 56 Visitors being hoisted up the Wall of the Convent of St. Katherine.
- 57 Entrance Gate, Convent of St. Katherine.
- 58 Group of Monks—Convent of St. Katherine.
- 59 Father Gregorian, a Greek Priest—Convent of St. Katherine.
- 60\*Manuscript page of the "Tischendorf" *Code x Sinaiticus*, John I.
- 61 Ancient Manuscript of the New Testament—Title-page and Portrait of St. John.
- 62\*Ancient Manuscript of the New Testament—Chapter 1 of the Gospel and Portrait of St. Matthew.
- 63\*Mosque and Church of the Convent, with the Mt. Sinai Group beyond.
- 64 Interior of the Greek Church, Convent of St. Katherine.
- 65 The Convent Court, from the Wall, with Church and Campanile.
- 66 The Plain of Er-Raha from the Convent Campanile.
- 67 The Windlass and Arabs hoisting Visitors up the Convent Wall.
- 68 The Skull of St. Stephen.
- 69 Exit Gate of the Convent, toward Mt. Sinai.
- 70 "Mayan Moosa," the Fountain of Moses—Jebel Moosa.
- 71 Convent of St. Katherine, from the Gorge of Mt. Sinai.
- 72 The Chapel of the Virgin, Exterior—Mt. Sinai.
- 73 The Chapel of the Virgin, Interior—Mt. Sinai.
- 74 The "Shrive" Gate and Steps, Ascent of Mt. Sinai.
- 75 The Second Gateway, Ascent of Mt. Sinai.
- 76 The Good Well, Ascent of Mt. Sinai.
- 77 The Chapels of Elijah and Elisha.
- 78 Interior of the Chapels of Elijah and Elisha.
- 79 Chapel and Mosque, Summit of Jebel Moosa.
- 80 "The Cave of Moses," Summit of Jebel Moosa.
- 81 Jebel Katareena, from the Summit of Jebel Moosa.
- 82\**Ras Sufsáfeh*, from the Summit of Jebel Moosa.
- 83\*The Willow Tree, Junction of Jebel Moosa and Sufsáfeh.
- 84 The Plain of Er-Raha, from the Gorge of Jebel Sufsáfeh.
- 85 "The Rock of Moses," Summit of Jebel Sufsáfeh.
- 86 Jebel Moosa from Sufsáfeh.
- 87 Jethro's Well, Jebel Sufsáfeh.
- 88 A Bedouin Shepherdess.
- 89 Shepherd and Shepherdess attending Flocks near Jethro's Well.
- 90 Cave Home of the Shepherds, Mt. Sinai.
- 91 The Bedouin Shepherd-boy (Moses) Músa.
- 92 Bedouin Pasture, Mt. Sinai.
- 93 Up the Gorge of Sufsáfeh, towards the Rock of Moses.
- 94 Date and Almond Trees, Oasis at the foot of the Gorge (No. 93).
- 94½ Almond Tree in Blossom, Oasis at the foot of the Gorge (No. 93).
- 95 The Plain of Er-Raha from the foot of Sufsáfeh.
- 96 Wady-ash-Sheykh from the foot of Jebel Sufsáfeh.
- 97 *Ras Sufsáfeh*, from Er-Raha.
- 98 "The Hill of Aaron" or "The Hill of the Golden Calf."
- 99 The Sinai Valley and Convent, from Aaron's Hill.
- 100 Jebels Moosa and Sufsáfeh, from Aaron's Hill.
- 101 The Sinai Valley, towards the Plain of Er-Raha from Aaron's Hill.

## ARABIA.

### Mount Sinai to Akabah.

- 102 The Sinai Valley N. E. toward Wady Esh Sheykh, from Aaron's Hill.
- 103 Hazeroth.
- 104 The Nukh, Gorge of Ain Huderah.
- 105 The Well, Gorge of Ain Huderah.
- 106 Fantastic Rock, Wady Huderah.
- 107 Entrance Gates of Wady El-Ain.
- 108 Exit Gates of Wady El-Ain.
- 109 A Pass in Wady El-Ain.
- 110 First Glimpse of the Gulf of Akabah from Wady Wetir.
- 111 The Mouth of Wady Wetir from the Gulf of Akabah.
- 112 Oasis by the Gulf of Akabah.
- 113 "A hit of Color"—Peaks by the Gulf of Akabah.
- 114 Sheykh Moúsa and his Camel.
- 115 Our Dragoman and our Sheykh with Camel.
- 116 By Akabah's Rocky Shore.
- 117 The Castle of Kuriyeh—Gulf of Akabah.
- 118 The Site of Ezion-Geber.
- 119 The Village of Akabah and Castle.
- 120 Bedouin Council at Akabah.
- 121\*Breaking Camp at Akabah.
- 122 Sheykh Moúsa—The Sinai Bedouin Judge.
- 123 Sheykh Ipnejad—The Akabah Bedouin Judge.

### Akabah to Petra.

- 124\*Wady Arabah, from Elaih.

- 123\*Wall of Defence, Wady El Ithm.
- 126 Pass Through Wady El Ithm.
- 127 Mid-day Rest in the "Loug Desert"—Group of our Party.
- 128 Ruins and Rock of El Guerab.
- 129 The Sphinx of El Guerab.
- 130 Four Camels Drinking—The Fight for Water at the Well of Humeliyumeh.
- 131 Group of Moorish Pilgrims en route for Mecca at the Well of Humeliyumeh.
- 132 Rock-House and Pictured-rocks at Humeliyumeh.
- 133 Rock-House and Pictured-rocks at Humeliyumeh, from another point.
- 134\*Miniature Mountain of Color—Wady Humeliyumeh.
- 135 Rock and "Well of Moses"—Ain Daluga.
- 136 Panorama of Petra, from the East—Sunrise.
- 137 Panorama of Petra, from the Southeast—Early Morn.
- 138 Panorama of Petra and Jehel Haroun—Mount Hor.
- 139 Sunrise on Ancient Edom and an ancient village.
- 140\*Pool and Ruins of Ain-El-Raga.
- 141 The Gorge of Wady Sik (same as 136 and 137 combined).
- 142 Barricade of Camels in Battle array—Ain Gazalah, near Petra.
- 143 The Three Tombs—Necropolis of Petra.
- 144 Tomb of the Four Pyramids—Necropolis of Petra.

- 145 The Petra Bedouin Guard, at the entrance to the Sik.
- 146 The Buttressed Arch—Entrance to Gorge of the Sik.
- 147 The Buttressed Arch, from inside the Gorge.
- 148 View in the Gorge of the Sik, with Oleanders.
- 149 On the river Sik—Gorge of the Sik.
- 150 First Glimpse of the Kuseh, through the Gorge—Petra.
- 151 The Kuseh, at Petra.
- 151\*Group of Bedouin Sheikhs, with Horses and Spears—A Surprise Opposite the Kuseh.
- 153 Preliminary Glimpse at Petra.
- 154 Group of Rock Temples, near the Theater—Petra.
- 155 The Petra Theater.
- 156 The "View Magnificent" Petra, from the Theater.
- 157\*Petra—Principal view east from our camp.
- 158 Petra—Principal view west from our camp.
- 159 Sheykh Salim, Chief of the Petra Bedouin and Staff.
- 160\*Our Camp at Petra.
- 161 Temple of the Urn, with Arched Terrace.
- 162 A Color Study—Colonnade of the Temple of the Urn.
- 163 Tombs, Temples and Cliffs—South from the Arched Terrace.
- 164 The Corinthian Structure.
- 165 Temple of the Three Tiers of Columns.
- 166 General view from the west, showing 161, 164, 165, together.
- 167\*The Kasr Faroun and broken Columns.
- 168 The Kasr Faroun—Exterior.

- 169\*The Kasr Faroun—Arched Doorway.
- 170\*The Kasr Faroun—Ruined Interior.
- 171 The Temples of Nature and of Edom.
- 172\*Interior of the Temple with Fluted Columns.
- 173 Rock Stairway and Pulpit.
- 174 Pyramid and ruined Fortress, on the highest cliff.
- 175 The Sacrificial Altar of Baal and Tanks on the highest cliff.
- 176 The Ravine of the Deir.
- 177 Interior of a Rock Temple near the Deir.
- 178 The Deir, from the Rock Temple.
- 179 The Deir, Façade.
- 180 Mount Hor from the Deir.
- 181 A Partly Finished Rock Temple, Petra, showing the mode of construction (beginning at the top and working downward).

#### Petra to Palestine.

- 182 Pass of the Eh-Rab Kosmonah.
- 183 Pictured Rocks, Kosmonah.
- 184 Ain-El Weibeh, mis-called Kadesh Barnea.
- 185 The Grave of Miriam at Ain-El Weibeh.
- 186 Mountains on Borders of Canaan.
- 187 An Oasis in the Arabian Desert.
- 188 Beautiful Hills near the Oasis.
- 189 The Plain from the Oasis.
- 190 The Departure of our Caravan from Arabia to Palestine.
- 191\*Camp of the Tiyahah Bedouin.
- 192\*Loading a Camel for the March.
- 193\*Head of a Camel, Profile.
- 194\*Head of a Camel, Rear.
- 195 Village of Dhoheriyeh.

## PALESTINE AND SYRIA.

### Hebron.

- 1 The place where Abram dwelt; and David's first capital. From the hill south of the city. The mosque is shown over the Cave of Machpelah, and in the foreground the Ancient Pool. The Valley of Esheol, whence Joshua's spies brought the grapes, on the left.
- 2 The Ancient Pool, where David hanged the murderers of Ishbosheth.
- 3 Wall of Machpelah.
- 4 The entrance to the Mosque (once a Christian church) over the Cave of Machpelah, the Sepulcher of Abraham, Isaac and Jacob.

- 5 The entrance-door to the Cave of Machpelah, seen from the roof of the smaller mosque higher up the hill.
- 6 View from a house-top, looking toward Jerusalem. The Cave of Machpelah in the foreground.
- 7 View from a house-top, looking down the road southward to Beersheba and Sinai.
- 8 A Vineyard of Esheol, whence Joshua's spies brought the grapes. In the distance, Abraham's Oak and a vineyard watch-tower.
- 9 Abraham's Oak. A modern oak representing the one under which Abraham dwelt.

- 10\*Rhamet-El-Khalil.
- 11\*Mosque of the El-Hul-hul.
- 12\*Tower of Beth Zur.
- 13 On the Road to Jerusalem. El-Burak. The Castle, and the Upper Pool of Solomon, from which a great portion of the water-supply of ancient Jerusalem was derived.
- 14\*Solomon's Pool—Upper.
- 15\*Solomon's Pool—Lower.
- 16\*Solomon's Pool—Lower Corner.
- 17 The Bab-el-Kahlil, or Joppa Gate, the principal south and western city-gate, leading to Joppa, Bethlehem and Hebron.
- 18 The Kahn, or roadway inn, outside the Joppa gate.

- 19 The Wood-market. A public square between the Tower of David and the English Church.
- 20 The Tower of David, or Tower of Hippicus, now, as formerly, a city stronghold; the Turkish Citadel.
- 21 The Christian Quarter of the city; showing the Church of the Holy Sepulchre, or reputed site of Jesus' death and burial, together with the buildings about it.
- 22 The Jewish Quarter of the city; showing the principal synagogues.
- 23 The "Pool of Hezekiah"; supposed to be that referred to in 2 Kings 20: 20; 2 Chronicles 2: 30.
- 24 The Protestant Church.
- 25 The Tower of David, with the bell-tower of the Protestant School in the foreground.
- 26 The Church of the Holy Sepulchre. Front view, from the court.
- 27 The Church of the Holy Sepulchre. Court and door.
- 28 The Muristan, or ruins of the ancient hospice and chapel of the Knights of St. John.
- 29 Omar's ancient mosque, near the Church of the Holy Sepulchre. The Mohammedan authorities prevented the tower of the Church of the Holy Sepulchre from being finished lest it should overtop the minaret of this mosque.
- 30 A carpenter's shop in Christian Street.
- 31 The Via Dolorosa, or street along which Jesus is said to have walked to Calvary.
- 32 The Ecce Homo Arch; or arch over the Via Dolorosa, upon which Pilate is said to have shown Jesus to the multitude when he said "Behold the Man."
- 33 The Pool of Bethesda; the reputed place where Jesus healed the man who lay waiting for the movement of the waters. In the distance, the Mount of Olives.
- 34 A wall and hedge of prickly pear, near the Pool of Bethesda.
- 35 The Cenaculum—the interior. The reputed upper room, where the Last Supper was celebrated; over the reputed tomb of David.
- 36 The Armenian Convent, said to have been the house of Caiaphas.
- 37 The Jew's Walling Place, where they lament the destruction of the Temple.
- 38 A group of Jews near the Walling Place.
- 39 Robinson's Arch; the sole remnant above ground of the bridge leading from the Temple to Mt. Zion.
- 40 The Dome of the Rock over the highest point of Mount Moriah, the site of the Temple.
- 41 The Haram esh-Sherif, or Temple Area, with the Dung Gate. View from the north.
- 42 The Modern Government Palace, on the supposed site of the ancient Governor's Palace. View from the Court of the Mosque near by.
- 43 A portion of the Government Palace on the supposed site of the Tower of Antonia.
- 44 The Government Palace looking through the north arch of approach to the Dome of the Rock.
- 45 The stairway and arch of approach to the Dome of the Rock, on the north side.
- 46 The small dome called David's Judgment seat, near the great Dome of the Rock—Exterior.
- 47 The small dome called David's Judgment Seat—Interior.
- 48 The Dome of the Rock: Front—Exterior.
- 49 The Dome of the Rock: Interior—showing the Rock itself, the highest part of Mount Moriah.
- 50 Mosque of Omar—Interior.
- 51 The Saracenic Pulpit in the Temple Area.
- 52 The Temple Area, looking eastward toward the Mount of Olives.
- 53 The Temple Area, looking northward toward the Government Palace.
- 54 Mussulman, praying in the Temple Area, at noon.
- 55 The Mosque of El-Aksa, on the southern edge of the Temple Area—Exterior.
- 56 The Mosque of El-Aksa—Interior.
- 57 The Saracenic Fountain at the Bab-es-Silsieh, or Gate of the Chain.
- 58 Gate of the Chain.
- 59 The Tombs of the Kings; the Stairs and Well.
- 60 The Tombs of the Kings; from the court in front.
- 61 The Tombs of the Kings. The Stone which was rolled up to close the Sepulchre.
- 62 The Russian Quarter, outside the walls of the city.
- 63 A peep into the city from over the Damascus Gate.
- 64 Damascus Gate.
- 65 Zion's Gate.
- 66 The city, looking over the wall from the outside, on Zion.
- 67 The Temple Area—Exterior, southeast.
- 68 The Golden Gate; a gate on the east side of the Temple Area, walled up by the Moslems—Exterior.
- 69 The Golden Gate—Interior.
- 70 The Moslem Cemetery, near St. Stephen's Gate.
- 71 The Mount of Olives, from the Moslem Cemetery, near St. Stephen's Gate.
- 72 St. Stephen's Gate; the gate which leads to the Mount of Olives, Bethany and Jericho.
- 73 Herod's Gate. A closed gate in an angle of the wall near the Damascus Gate.
- 74 The Cotton Grotto; an ancient quarry beneath the city itself.
- 75 The Grotto of Jeremiah.
- 76 The Mount of Olives, from near St. Stephen's Gate; showing Gethsemane.
- 77 The Dome of the Church (now Mosque) of the Ascension, on the Mount of Olives.
- 78 The Chapel of the Lord's Prayer, on the Mount of Olives.
- 79 The Chapel of the Ascension, on the Mount of Olives.
- 80 The Muezzin's Call to Prayer, Minaret of the Mosque at the summit of the Mount of Olives.
- 81 The Valleys of Jehoshaphat and Hinnom, with the Mount of Offense and the Mount of Olives on the left, and a corner of the city wall on the right.
- 82 The City from the Mount of Olives; south end.
- 83 The City from the Mount of Olives; centre.
- 84 The City from the Mount of Olives; north end.
- 85 The Hill of Scopus, whence the invading armies made their first appearance against the city.
- 86 The supposed Upper Pool of Gihon, whose waters Hezekiah brought into the city.
- 87 Lepers' Quarters and Hospital, near the Upper Pool of Gihon.
- 88 The supposed Lower Pool of Gihon, the 'Ain-es-Sultan.
- 89 The Valley of Hinnom, from the Lower Pool of Gihon.
- 90 The Hill of Evil Counsel; supposed to be the scene of Solomon's idolatries.

- 91 The lower part of the Valley of Hinnom, from the rock-tomb (Aceldama) above.
- 92 The supposed Potter's Field, which was purchased with Judas Iscariot's thirty pieces of silver. Rock tombs with steps.
- 93 The Kidron Valley, from the supposed Potter's Field.
- 94 The supposed Potter's Field, from the valley below.
- 95 En Rogel, the boundary of Judah and Benjamin.
- 96 En Rogel and the Hill of Evil Counsel.
- 97 The modern village of Silwan (Siloam), on the site of the ancient Jewish burial-place.
- 98 Isaiah's Tree. A mulberry tree supposed to mark the site of Isaiah's martyrdom.
- 99 The Pool of Siloam.
- 100 Another view of Silwan (Siloam) and its gardens.
- 101 The Valley of Jehoshaphat looking north from the village of Silwan. The tombs of Absalom, Zacharias and James on the right, the city wall on the left.
- 102 Mount Moriah; from the village of Siloam.
- 103 The so-called Tombs of Zacharias and James, in the Valley of Jehoshaphat.
- 104 The so-called Tomb of Absalom.
- 105 The Valley of Jehoshaphat; from the Tomb of Absalom, looking north.
- 106 The Mount of Olives; from the Golden Gate.
- 107 The Valley of Jehoshaphat, from Gethsemane.
- 108 The Chapel of the Virgin, in the Kidron Valley, with the entrance to the Grotto of the Agony.
- 109 The Garden of Gethsemane.
- 110 The Avony, a sculpture by Canova (Gethsemane).
- 111 The Garden of Gethsemane; from above, looking southward.
- 112 The Garden of Gethsemane; from above, looking northward; showing the road up to St. Stephen's Gate, and the Chapel of the Virgin.
- 113 View from the Grotto of Jeremiah.
- 114 View of the Mount of Olives from the Grotto of Jeremiah.
- 115 The Grotto of Jeremiah.
- 116 The road to Mar Saba Convent and the Dead Sea.
- 117 Bethany, from the hill above.

- 118 Bethany, with the Dead Sea in the distance.
- 119 The hills about Bethany.
- 120 Bethany. The ruin shown as the House of Mary and Martha.
- 121 Bethany. The reputed Tomb of Lazarus.
- 122 Bethany. The modern building shown as the House of Mary and Martha.
- 123 Bethany. Women of Bethany.

### Bethlehem.

- 124 The Tomb of Rachel.
- 125 The town from the Church of the Nativity.
- 126 The Church of the Nativity.
- 127 The stairway descent to the reputed birth-place of Jesus.
- 128 The fields of the shepherds' watch.
- 129 Way to the Dead Sea. The Convent of Mar Saba—Interior.
- 130 Way to the Dead Sea. The Convent of Mar Saba—Exterior.
- 131 The Dead Sea, looking westward.
- 132 The Dead Sea, looking toward Moab.
- 133 The Dead Sea. Hot-lunch tent.
- 134 The Jordan. The Pilgrims' Bathing Place.
- 135 The Jordan. The "Stormy banks."
- 136 Jericho. The reputed House of Zacharias.
- 137 Jericho. The Plains of Jericho.
- 138 Jericho. The Fountain of Elisha.
- 139 Jericho. The town and the Mount Quarantana the reputed place of Jesus' temptation.
- 140 Bethel. Jacob's dream.
- 141 Bethel. The Tower.
- 142 Bethel. View of the town from the Tower.
- 143 Bethel. View looking toward Jerusalem.
- 144 Shiloh. The place of the Tabernacle in the times of the Judges—The ruined Sanctuary.
- 145 Shiloh. Door of the ruined Sanctuary.
- 146 Shiloh. The Grave of Deborah.

### Shechem.

- 147 Nablus. Jacob's Well.
- 148 Joseph's Tomb.
- 149 Mount Ebal, the Mount of Blessing.
- 150 Mount Gerizim, the Mount of Cursing; the Samaritans' sacred mountain.
- 151 Jacob's Tower.
- 152 Samaritan houses.
- 153 Samaritan women.
- 154 Samaritan priest, with the Roll of the Samaritan Pentateuch.

- 155 Group of lepers.
- 156 Samaria. The capital city of the Ten Tribes.
- 157 Samaria. The Church of St. John.
- 158 Samaria. The old Colonnade.
- 159 Jenin. En Gannim, a Levite city in the land of Issachar. The Mosque, with palms.
- 160 Jenin. En Gannim. The village, as seen from the Mosque.
- 161 Mount Gilboa, and the Well. The region of the last battle of Saul and Jonathan, and of their death.
- 162 Dothan. The plain where Joseph's brothers kept their sheep; and where they sold Joseph.
- 163 'Ain Jalud. The Fountain of Jezreel.
- 164 'Ain Jalud. The stream of the Fountain of Jezreel, looking toward the Jordan.
- 165 Zerin. The ancient Jezreel, the scene of Saul's last battle with the Philistines, and of his death. The Tower. Also, the residence of Ahab and Jezebel.
- 166 Jezreel. The Plain of Jezreel or Esdraelon, as seen from the Tower.
- 167 Shunem, where the Philistines encamped against Saul; and Little Hermon, where the Midianites encamped before they were defeated by Gideon.
- 168 Shunem. Houses and gardens.
- 169 Shunem. Prickly pear and palms.
- 170 Nain, where the widow's son was raised to life by Jesus; and Mount Tabor, a traditional site of the Transfiguration.
- 171 Nazareth. From the Church of the Annunciation.
- 172 Nazareth. The interior of the Church of the Annunciation.
- 173\* Nazareth. Altar of the Annunciation.
- 174 Nazareth. The interior of the Chapel of St. Joseph.
- 175\* Nazareth. A Street View.
- 176 Nazareth. The Fountain of the Virgin. The place where Mary and Jesus must have gone for water.
- 177 Nazareth. Nazarene girls at the Fountain of the Virgin.
- 178 Mount Tabor. Relics of the Crusaders at the summit.
- 179 Mount Tabor. Jewish moat and wall.
- 180\* Endor from Mount Tabor.

- 181 The Sea of Galilee, near the hot spring below Tiberias.
- 182 The Sea of Galilee. Tiberias.
- 183 The Sea of Galilee. Tiberias. The interior of the Jewish Synagogue.
- 184 The Sea of Galilee. Magdala.
- 185 Magdala and the plain.
- 186\*Capernaum.
- 187 The Sea of Galilee. 'Ain et-Tin. A possible site of Bethsaida.
- 188 The Sea of Galilee. 'Ain et-Tabighah. The supposed site of Bethsaida.
- 189 Chorazin. Kerazeh.
- 190 The river Hashany, one of the Jordan tributaries, and bridge.
- 191 The Fountain of Dan. Tell el-Kadi. One of the sources of the Jordan.
- 192 Dan. Tel-el-Kadi. Ruins and oak.
- Banias.**
- 193 Casarea Philippi. The region of Peter's confession.
- 194 Casarea Philippi. The Castle.
- 195 Casarea Philippi. The Jordan, at one of its sources.
- 196 Casarea Philippi. One of the sources of the Jordan.
- 197 Casarea Philippi. Ancient shrines.
- 198 Casarea Philippi. The Castle; another view.
- 199 Casarea Philippi. The Castle; another view.
- 200 Casarea Philippi. View of Mount Hermon from the Castle.
- 201 View of Mount Hermon from the Damascus road.
- 202 Druze plowman and team.
- 203 Druze shepherd, with a lamb.
- 204 Druze mule-and-cow team.
- Damascus.**
- 205 Olive orchard.
- 206 The scene of St. Paul's conversion.
- 207 The scene of St. Paul's escape.
- 208 The House of Naaman the Leper.
- 209 A view within the city.
- 210 A house on the wall, showing how Paul might be let down in a basket.
- 211 The Ancient City Wall.
- 212 The East Gate.
- 213 The Street called Straight.
- 214 A covered portion of the Street called Straight.
- 215 A Garden on the Abana River.
- 216 A Café, or coffee house.
- 217 The Gate of Peace.
- 218 The House of Ananias.
- 219 A Weaver's Shop, near the house of Ananias.
- 220 A shop and bazaar.
- 221 The city from a house-top.
- 222 The Grand Mosque.
- 223 The Grand Mosque. The Minaret of Jesus.
- 224 The Grand Mosque Gateway.
- 225 The Interior of the Kubbet, or Dome of the Grand Mosque.
- 226 View of the old and the new city from the Minaret of the Grand Mosque.
- 227 Another view from the Minaret of the Grand Mosque.
- 228 The Presbyterian Mission School for Boys.
- 229 The Presbyterian Mission School for Girls.
- 230 A native family at home.
- 231 The interior of a Jewish residence.
- 232 The interior of the Harem of Assad Pasha.
- 233 The Palace Court of Assad Pasha.
- 234 House of Stambouli Pasha; the Court.
- 235 House of Stambouli Pasha; the Salon.
- 236 Damascus to Beirut. El-Fijeh, a fountain source of the Barada, or ancient Pharpar.
- 237 Damascus to Beirut. Suk Wady Barada, or Pharpar River. The Bridge and Cascade.
- 238 Damascus to Beirut. Suk Wady Barada. The Pharpar River. The Cascade from the Bridge.
- 239 Damascus to Beirut. The Pharpar River. The Roman Road.
- Baalbec.**
- 240 Birth of the River Abana, near Baalbec.
- 241 Baalbec, general view.
- 242 Baalbec (modern). Statue of the Sun.
- 243 Interior of the old Mosque.
- 244 The Circular Temple.
- 245 Temple of the Sun.
- 246 Temple of the Sun. Slipped Keystone.
- 247 Fallen Cornice and Capitals. Temple of the Sun.
- 248 Details of Roof Decoration.
- 249 Temple of the Sun and Leaning Column.
- 250 Temple of the Sun and Leaning Column.
- 251 Temple of the Sun. Interior.
- 252 Details of Capitals. Temple of the Sun.
- 253 Baalbec (Modern), from Temple of the Sun.
- 254 The Great Court, from Temple of the Sun.
- 255 Temples of the Sun and Baal.
- 256 Temple of Baal.
- 257 Temple of Baal; details.
- 258 Niche, west side of Great Court.
- 259 Temple of Baal, through a breach in the wall of the Great Court.
- 260 Cyclopean Stones in the wall of Great Court.
- 261 The Quarry and cyclopean stone.
- 262 Our Tent, interior, at Baalbec.
- 263\*Abdullah, our Steward, at length.
- 264 Abdullah, King of Custards.
- 265 Hahna, Prince of Muleteers.
- 266 Hadayah, King of Dragomen.
- 267 Fifteen minutes with a Donkey (a regular wrestle).
- 268 The Donkey Conquered.
- 269 Concocting a kick (Donkey).
- 270 A picturesque profile (Donkey).
- 271\*Models of Meekness (Donkeys).
- 272 Our Baby of the Rock (Donkey and Dam).
- 273 Lebanon to Anti-Lebanon; Mount Hermon.
- Zahleh.**
- 274\*Valley of Záhleh, from the east.
- 275 Záhleh, from the Girls' School.
- 276 Home of Rev. Gerald Dale, Jr.
- 277 Boys' High School.
- 278 Girls' High School.
- Beirut.**
- 279 Music Garden.
- 280 Street view and wall of Flowers.
- 281 Toward the Sea.
- 282 Toward Lebanon.
- 283 Mrs. Mott's School and Arabic Building.
- 284 Presbyterian Church, Memorial Hall, and Girls' Seminary.
- 285 Dale Memorial Hall, Interior.
- 286 Native Students, Female Seminary.
- 287 Residence of Rev. Dr. Bliss (Marquand House).
- 288 Preparatory Department, Syrian Protestant College.
- 289 Syrian Protestant College.
- 290 Students from Záhleh, Syrian Protestant College.
- 291 Medical Department, Syrian Protestant College.
- Joppa.**
- 292 Joppa, from the Steamship.
- 293 Joppa, from the shore.
- 294 House of Simon the Tanner.



- 295 Native Protestant School (English).  
296 Nazleh and Mermon, Pets of the Mission.

- 297 Port Said; march of civilization.  
298 On the Suez Canal, Port Said.

- 299 An Oriental conundrum (a donkey with sewed ears).  
300 Aboard ship for home, Port Said.

## EDWARD L. WILSON'S PERSONALLY PHOTOGRAPHED SLIDES OF ITALY, PARIS AND LONDON.

### Italy.

#### *Herculaneum.*

- 1 General view of the Ruins  
2 House of Aristides.  
3 House of Aristides; Garden.  
4 House of Aristides; Colonnade.

#### *Pompeii.*

- 5 Forum, general view.  
6 Forum, details.  
7 Basilica.  
8 Temple of Mercury; Art relics.  
9 Temple of Mercury; Statuary.  
10 Arch of Nero and St. of Mercury.  
11 Temple and Street of Fortune.  
12 House of Glaucus.  
13 House of the Baker.  
14 Gate of Herculaneum and the Sentry.  
15 Street of the Tombs.  
16 Street of the Tombs, Public Resting-place.  
17 House of the Dancing Faun.  
18 Pompeian Wine Jars.  
19 Arch of Triumph and Vesuvius.  
20 New (1882) Excavations.  
21 Museum; Interior.  
22 Museum; Skulls and Bread.

#### *Naples.*

- 23 Custom House.  
24 Vesuvius from the Quay.  
25 Zoological and Public Garden.  
26 National Park; Entrance.  
27 A Modern Neapolitan Residence.  
28 Castle del Nuovo.

#### *Rome.*

- 29 Pincio; Quirinal.  
30 Pincian Highway; Statuary.  
31 Piazza del Popolo.  
32 The Corso.  
33 Rome from the Quirinal.  
34 Trinita del Monte; Span. Staircase.  
35 Peasant Model; Span. staircase.  
36 Peasant Model; Span. staircase.  
37 Group of Models; Span. staircase.  
38 Group of Models; Span. staircase.  
39 The Capitol.  
40 Statue of Marcus Aurelius; Capitol Hill.  
41 The Pantheon.  
42 Fountain of Trevi.

- 43 Arch of Septimius Severus  
44 Forum; Temples of Saturn and Vespasian.  
45 Column of Phocas; Forum  
46 Temple of Castor and Pollux.  
47 Forum of Trajan.  
48 Arch of Titus.  
49 Arch of Constantine.  
50 Colosseum and Arch of Constantine.  
51 Colosseum; interior, general.  
52 Colosseum; interior, details.  
53 Rome from the Colosseum  
54 St. Peter's; exterior.  
55 St. Peter's and the Vatican  
56 St. Peter's and the Obelisk.  
57 Vatican and the Obelisk.  
58 Vatican and the Fountain.  
59 Floral Group; Hotel Costanzi.  
60 Art in our Bed-chamber; Hotel Costanzi.  
61 Flora, by Brignoli; Hotel Costanzi.  
62 Poetry, by Brignoli; Hotel Costanzi.

### Paris.

- 63 From the Arc de Triumph toward the Trocadero.  
64 A Traveler's view from the Arc de Triumph.  
65 From the Arc de Triumph toward the Invalides.  
66 From the Arc de Triumph; Champs Elysée.  
67 Arc de Triumph, east; near.  
68 Arc de Triumph, east; distant.  
69 Arc de Triumph, west.  
70 Arc de Triumph; Departure.  
71 Arc de Triumph; Coronation.  
72 Arc de Triumph; left Bas-relief.  
73 Bit of the Champs Elysée.  
74 Palais de l'Industrie and Statue of Marceau.  
75 Tuilleries; south side.  
76 Bit of Tuilleries and Louvre.  
77 Louvre; exterior.  
78 Louvre; Court interior.  
79 Palais Royal.  
80 Place de la Concorde; general.  
81 Place de la Concorde; Statue of Brest.  
82 Madeleine.  
83 Place and Column Vendôme.  
84 Grand Opera House.  
85 Group of Dancers; Grand Opera House.

- 86 Boulevard Hausmann.  
87 Parisian News-stand.  
88 Parisian Flower-seller.  
89 Parisian Omnibus.  
90 New Hotel-de-Ville; N. W. Tower.  
91 New Hotel-de-Ville; N. Facade.  
92 Notre Dame Cathedral; Facade.  
93 Notre Dame Cathedral; Portal.  
94 Notre Dame and the Seine.  
95 Palace of Justice and St. Chapelle.  
96 Palace of Justice; Golden Gate.  
97 Pantheon.  
98 Rue St. Jacques and the Pantheon.  
99 Rue St. Jacques and the Luxembourg.  
100 St. Etienne du Mont.  
101 Palais des Beaux Arts.  
102 Luxembourg Palace; Garden of Roses.  
103 Luxembourg Palace and Garden.  
104 Luxembourg Palace and Garden.  
105 Luxembourg Palace and Statuary.  
106 Luxembourg Palace; the Fountain.  
107 Corps Legislatif.  
108 Institute.  
109 Seine Bridges, from St. Michael toward new Hotel-de-Ville.  
110 Seine Bridges, from St. Michael toward the Seine.  
111 Pont Neuf and the Maison de la Belle Jardinière.  
112 Pont Neuf; instantaneous.  
113 Paris Streets, from Pont Neuf.  
114 Seine near the Tuilleries; instantaneous.  
115 Louvre and Tuilleries from Pont Neuf.  
116 Tower of St. Jacques.  
117 Bourse.  
118 Dome of the Invalides.  
119 Hospital of the Invalides.  
120 Pont de Jena; the Seine and Trocadero.  
121 Trocadero and Gardens.  
122 Trocadero Fountain; Bull.  
123 Trocadero Fountain; Rhinoceros.  
124 Trocadero Fountain; Horse.  
125 Trocadero Fountain; Elephant.  
126 Church of St. Augustine.  
127 American Chapel; Rue de Berr

- 128 Expiatory Chapel of Louis XVI.  
129 Parc Monceau.  
130 Parisian Shops on Rue Rivoli.

### London.

- 131 Thames, from the Victoria Embankment; N.; instantaneous.  
132 Thames, from the Victoria Embankment; S.; instantaneous.  
133 Somerset House and the Victoria Embankment.  
134 Thames; Victoria Landing.  
135 Thames, through an arch of Waterloo Bridge.
- 136 Egyptian Obelisk and Somerset House; Thames Embankment.  
137 Blackfriars Bridge.  
138 House of Parliament and Thames Embankment.  
139 House of Parliament; Victoria Tower.  
140 House of Parliament, from Lambeth Terrace.  
141 House of Parliament and Westminster Abbey, from Lambeth Terrace.  
142 Westminster Bridge and Victoria Tower.  
143 Westminster Abbey, from Victoria Tower.  
144 Westminster Abbey; Facade.
- 145 Westminster Abbey and House of Dean Stanley.  
146 Trafalgar Square, from Cumberland Terrace.  
147 Albert Memorial; general view.  
148 Albert Memorial; America.  
149 Albert Memorial; Europe.  
150 Albert Memorial; Asia.  
151 Albert Memorial; Africa.  
152 St. Paul's Cathedral.  
153 Bank of England.  
154 Temple Bar Memorial.  
155 British Museum.  
156 Spurgeon's Tabernacle.  
157 Tower of London.  
158 Orphan's Home—Liverpool.

## JNO. O. FOSTER'S ILLUSTRATED SERMON ON THE CHILDREN OF ISRAEL.

- 1 Israel in Bondage.  
2 Watering the Fields in Egypt.  
3 Pastime in an Egyptian Palace.  
4 Joseph Making Himself known to his Brethren.  
5 Plague of Frogs and Hail.  
6 Plague of Hail.  
7 Plague of Locusts.  
8 Plague of Darkness.  
9 Plague of Death of First Born.  
10 Departure from Egypt.  
11 Departure of Israel from Egypt.  
12 Israel's Bondage Ended.  
13 March in the Wilderness.  
14 Gorge in Ataka Mountains.  
15 Map of Red Sea and Route of Children of Israel.  
16 Destruction of Pharaoh's Host.  
16a Pharaoh Overwhelmed—(Dore.)  
17 Miriam and the Danes.  
18 Map of Egypt and the Wilderness.
- 19 Israel Mourning for Water in the Wilderness.  
20 Moses Receiving the Law. "Let not God speak to us lest we die."  
21 Moses Receiving the Law.  
22 Encampment before Sinai.  
23 The Tabernacle.  
24 Tabernacle in the Wilderness.  
25 Brazen Laver, Altar, etc.  
26 Furniture of the Tabernacle.  
27 Holy Place.  
28 Holy of Holies.  
29 Golden Candlestick and Table of Shew Bread.  
30 Vestments of Priests.  
31 Map of Wilderness of Kadesh Barnea.  
32 Dromedary, "The Ship of the Desert."  
33 Rev. H. C. Trumbull, D. D., of Diocese of Kadesh Barnea.  
34 Plague of Flying Fiery Serpents.  
35 Korah and his Followers swallowed up.
- 36 Death of Nodab and Abihu.  
37 Miriam's Leprosy.  
38 Moses on Mt. Nebo viewing Canaan.  
39 Commission of Joshua.  
40 Plain of Jordan, looking toward Dead Sea.  
41 Children of Israel coming to Jordan, looking south.  
42 Crossing over Jordan.  
43 Stones of Memorial.  
44 Fall of Jericho.  
45 Destruction of Achan and his Children.  
46 Assault on Cities in Ancient Times.  
47 Map of Conquest of Canaan.  
48 Convent at Mt. Sinai.  
49 View from Nehy Samwil.  
50 Beit-ur-el-foka, site of Upper Beth-horon.  
51 View from Upper Beth-horon.  
52 Village of El Jih, the ancient Gibeon of Joshua.  
53 Nehy Samwil, ancient Mizpeh. The Watch Tower of Benjamin, from El Jih.

## SONGS AND HYMNS WITH MUSIC.

- 1 Marching to Zion.  
2 Beulah Land.  
3 Shelter in Time of Storm.  
4 The Child of a King.  
5 Glorious Fountain.  
6 Bringing in the Sheaves.  
7 Rock of Ages.  
8 At the Cross.  
9 To Save a Poor Sinner Like Me.  
10 Follow on.
- 11 God be with You and Shelter in a Time of Need.  
12 Mighty to Save and the Love that Gave Jesus to Die.  
13 What a Friend.  
14 Just as I Am.  
15 Cross and Crown.  
16 The Lily of the Valley.  
17 Stand Like the Brave. (Temperance.)
- 18 The Temperance Call. (Temperance.)  
19 Coming By and By. (Temperance.)  
20 Glorious Victory. (Temperance.)  
21 Will Never Touch the Wine. (Temperance.)  
22 There Shall Be Showers of Blessing. (Temperance.)

## AMERICA OR THE LAND WE LIVE IN.

- |                              |                              |                               |
|------------------------------|------------------------------|-------------------------------|
| 1 San Francisco, Panorama.   | 20 Denver, Colorado.         | 43 Home of Irving, Sunny-     |
| 2 San Francisco, Palace      | 21 Omaha.                    | side.                         |
| Hotel.                       | 22 Council Bluffs.           | 44 New York City, Grand       |
| 3 San Francisco, Seal Rocks. | 23 St. Louis Bridge,         | Central Depot.                |
| 4 San Francisco, Chinese     | 24 St. Louis, Panorama.      | 45 Central Park, the Obelisk. |
| Quarter.                     | 25 St. Louis, Oldest House.  | 46 Elevated Railroad, Chat-   |
| 5 San Francisco, Joss House  | 26 St. Louis, Levee and      | ham Square.                   |
| Exterior.                    | Steamboat.                   | 47 City Hall.                 |
| 6 San Francisco, Joss House  | 27 Chicago, Panorama.        | 48 New York, Post Office.     |
| Interior.                    | 28 Chicago, Michigan South-  | 49 " " Broadway.              |
| 7 Sacramento, Panorama.      | ern Railroad Depot.          | 50 New York, Stock Ex-        |
| 8 Sacramento, State Capito-  | 29 Chicago, Court House.     | change.                       |
| l.                           | 30 Chicago, Grand Pacific    | 51 New York, Brooklyn         |
| 9 Yosemite Valley from In-   | Hotel.                       | Bridge.                       |
| spiration Point.             | 31 Niagara, American Fall    | 52 New York, Sound Steamer.   |
| 10 Yosemite Valley, Yosemite | from Canadian Side.          | 53 Philadelphia, Independ-    |
| Falls 2,634 feet high.       | 32 Niagara, View in Winter.  | ence Hall.                    |
| 11 Vernal Falls.             | 33 Ticonderoga, Ruins of     | 54 Philadelphia, Girard Col-  |
| 12 Yosemite Valley, Sentinel | Fort.                        | lege.                         |
| Rock 3,270 feet high.        | 34 Lake George.              | 55 Washington, President's    |
| 13 Mirror Lake.              | 35 Saratoga.                 | House.                        |
| 14 Mariposa Grove.           | 36 Saratoga Springs.         | 56 Washington Capitol.        |
| 15 Ogden Pacific Railroad.   | 37 Boston, State House.      | 57 United States Senate       |
| 16 Salt Lake City.           | 38 Boston, Old South Church. | Chamber.                      |
| 17 Salt Lake City, Brigham   | 39 Boston, Faneuil Hall.     | 58 Mount Vernon, Mansion      |
| Young's House.               | 40 Newburg, N. Y., Wash-     | House.                        |
| 18 Salt Lake City, Mormon    | ington's Headquarters.       | 59 Mount Vernon, Washing-     |
| Tabernacle.                  | 41 West Point.               | ton's Tomb.                   |
| 19 Salt Lake City, New Mor-  | 42 Scene of Andre's Capt-    | 60 Portrait of Washington     |
| mon Temple.                  | ure.                         | by Stuart.                    |

## ADDITIONAL PHOTO-MICROGRAPHIC TRANSPARENCIES.

- |                               |                              |                                |
|-------------------------------|------------------------------|--------------------------------|
| 385 Spine of Echinus escu-    | <i>Minerals.</i>             | 411 Quartz. Fluid cavities     |
| lentus                        | 396 Obsidian                 | 412 Limestone                  |
| 386 Spine of Cidarlis metu-   | 397 Coprolite                | 413 Marble                     |
| laris                         | 398 Leucite                  | 414 Coal fossils               |
| 387 Anchors and Plates of     | 399 Leucite, Basaltic, Vesu- | 415 Wood opal                  |
| Synapta, grouped              | vius                         | <i>Miscellaneous.</i>          |
| 388 Orthocidarlis hystrix,    | 400 Nummulitic Limestone     | 416 Vase of Flowers. Made      |
| trans sec. spine              | 401 " Chert                  | from Diatoms and the           |
| <i>Chemicals.</i>             | 402 Agate                    | scales of insects              |
| 389 Quinate of Quinine. Po-   | 403 Pikrite                  | 417 Fibers of Wood             |
| lariscope                     | 404 Granite. Maine           | 418 " Cotton                   |
| 390 Amygdaline. Polariscopes  | 405 Pitch Stone. Isle of     | 419 " Flax                     |
| 391 Lithic Acid. Polariscopes | Arran                        | 420 " Hemp                     |
| 392 Uric Acid                 | 406 Pitch Stone. Colorado    | 421 " Jute                     |
| 393 Triple Phosphates         | 407 Diabase. Lambertville,   | 422 " Silk                     |
| 394 Arsenious Acid. Paraboi-  | N. J.                        | 423 Fat Crystals. Polariscopes |
| loid                          | 408 Muscovite, with Magnet-  | 424 Butter "                   |
| 395 Ethel, Ether of Gallie    | ite and Hematite             | 425 Oleomargarine              |
| Acid                          | 409 Trachyte. 3 localities   |                                |
|                               | 410 Eozoon Canadense         |                                |

## ALASKA.

## Sitka.

- 1 Harbor of Sitka
- 2 Street in Sitka
- 3 Grand Panorama from top of Castle
- 4 The Greek Church
- 5 Old Russian Block House
- 6 Evening on Sitka Bay
- 7 Wood Path near Indian River
- 8 From South, showing Russian Castle and Greek Church

## Juneau.

- 9 Panorama

- 10 Early Morning at Juneau
- 11 Indians at Juneau

## Pyramid Harbor.

- 12 Pyramid Harbor
- 13 Beach and Mountains
- 14 Natives
- 15 Indians
- 16 Natives Loading Salmon

## Muir Glacier.

- 17 From the Steamer
- 18 General View
- 19 Front View

- 20 Side View
- 21 Summit
- 22 Tourists on Muir Glacier
- 23 Steamer Ancon behind an Iceberg
- 24 Totems at Fort Wrangle
- 25 " " " "
- 26 " " " "
- 27 Karta Bay
- 28 Indian Women and Babies, Karta Bay
- 29 Group of Passengers on Steamer Ancon
- 30 Officers of Steamer Ancon on Bridge
- 31 Alaskan Curios

## BRITISH COLUMBIA.

## Vancouver.

- 1 Pacific Terminus of Canadian P. R. R.
- 2 Victoria Harbor
- 3 Victoria Harbor from top of Government Building
- 4 H. M. S. The Triumph, Esquimault Harbor
- 5 Dry Docks, Esquimault

## Selkirk Mountains.

- 6 The Glaciers from the Snowfield
- 7 Foot of the Glaciers
- 8 The Glaciers from Glacier Station
- 9 Face of Glaciers and Sir

## Donald (close view)

- 10 Face of Glaciers and Sir Donald
- 11 Sir Donald and the Glaciers, from Glacier Station
- 12 Sir Donald from Glacier Hotel (close view)
- 13 Sir Donald from Glacier Hotel
- 14 A Crevasse in the Glaciers
- 15 Glaciers and the Illecillewaet
- 16 Mount Carrol and Mount Hermit Range from Glacier Station
- 17 Mount Carrol and Mount Hermit from near Glacier Station

- 18 Small Glacier from the Loop
- 19 Syndicate Peak
- 20 Among the Selkirks
- 21 " " "
- 22 " " "
- 23 The Selkirks at Ross Peak Siding
- 24 In the Forest
- 25 After the Avalanche
- 26 The Effects of an Avalanche
- 27 Mount Stevens from field
- 28 Rocky Mountains from Donald
- 29 Canada Pacific R. R. at Ross Peak Siding
- 30 Dining Car Holyrood, C. P. R. R.

## WEST INDIES—CUBA.

## Havana.

- 1 General View from Casa Blanca
- 2 General View from Casa Blanca
- 3 General View from Casa Blanca
- 4 General View from Casa Blanca
- 5 Panorama, close view
- 6 Residence of the Captain General
- 7 A Street Market.
- 8 The Prada
- 9 The Avenue of Royal Palms on the Road to Vento
- 10 Cuban Architecture, Colonnade Style
- 11 The Calzada de la Reina
- 12 Cuban Mode of Transportation
- 13 Fruit and Poultry Sellers
- 14 Cabanas Castle
- 15 Palace of the Captain General, Plaza de Armas
- 16 Cuban Family in the Suburbs
- 17 The Harbor
- 18 The Harbor
- 19 Cabanas Castle

- 20 Colone Market
- 21 Tacon Market
- 22 The Park, Showing Statue Isabella II.
- 23 Fountain and Statue of Neptune
- 24 The Bull Ring
- 25 On the Quay
- 26 Harbor View from the Punta
- 27 Team of Oxen
- 28 General View of the Cemetery
- 29 General View of the Park
- 30 Native Boats, with City in the Distance
- 31 Ox Cart and Donkeys with Panniers
- 32 Milking Cow in the Street, Early Morning
- 33 The Indian Statue
- 34 Early Morning at the Tacon Market
- 35 A Street View
- 36 The Cathedral
- 37 The Temple Colone
- 38 A Volante
- 39 Reina Mercedes Hospital
- 40 The Castle
- 41 The Tacon Prison
- 42 Panorama from the Casino

- 43 Tropical Foliage in the Park
- 44 Prada, from the Indian Statue
- 45 Palace of the Governor-General
- 46 Ascosta Street, Showing Old Arch
- 47 Hotel Telegrafo
- 48 The Louvre
- 49 Native Boat with Sail Set
- 50 Street Leading to the Quay
- 51 Street View in the Suburbs
- 52 Bathing Horses at the Punta
- 53 Tropical Scenery at Vento
- 54 Slave Quarters on the Toledo Estate
- 55 Liquor Distillery on the Toledo Estate
- 56 Slaves at work on the Toledo Estate

## Matanzas.

- 57 The Palace and Plaza
- 58 On the Road to the Caves of Bellamar
- 59 Entrance to the Caves of Bellamar
- 60 Santiago Harbor

# AUSTRIA.

## Vienna.

- 1 The Cathedral
- 2 Entrance to the Cathedral
- 3 Maximilian Platz
- 4 Kursaal in the City Park
- 5 The Imperial Palace
- 6 The Rathaus
- 7 The Grand Opera House
- 8 The Imperial Parliament Buildings
- 9 The Schiller Monument
- 10 The University
- 11 Statue and Monument to Wilhelm von Leutthoff
- 12 Maria Theresa Monument
- 13 Ring Strasse
- 14 Queen's new Opera House
- 15 Schwarzerberg Street
- 16 Kurhaus in Stadt Park
- 17 Street View
- 18 Grand Opera House
- 19 Facade Grand Opera House
- 20 Phaeus Temple
- 21 Folk's Garden, where Strauss plays
- 22 The Market
- 23 City Hall
- 24 Franz's Monument, Inner Palace Court
- 25 Graten Platz and Trinity Column
- 26 Equestrian Statue of Francis I.
- 27 Imperial Gateway from Parade
- 28 Upper Belvidere
- 29 Kärntner Strasse
- 30 Guard Leaving the Palace
- 31 Prince Ludwig's Carriage at Palace Door
- 32 Thomas Cook & Son's office
- 33 Imperial Laxenburg Palace (suburbs)
- 34 Imperial Laxenburg Palace, Ferry to the Castle
- 35 Imperial Laxenburg Palace. The Lake
- 36 River Steamers
- 37 Schoenbrunn Palace, Spanish Room
- 38 Schoenbrunn Palace, Gobel Room
- 39 Schoenbrunn Palace, Gobel Room
- 40 Schoenbrunn Palace, Japanese Room
- 41 Schoenbrunn Palace, Mirror Room
- 42 Schoenbrunn Palace, The Hall

- 43 Schoenbrunn Palace, King's Billiard Room
- 44 Schoenbrunn Palace, Gallery of Portraits
- 45 Schoenbrunn Palace, Maximilian's Room
- 46 Schoenbrunn Palace, Royal Riding School
- 47 Hofburg
- 48 Schoenbrunn Imperial Summer Palace
- 49 Belvidere

## Innsbruck.

- 50 Theresien Strasse
- 51 Triumphal Arch
- 52 Goldenes Dach
- 53 View at Telfs
- 54 Schloss Ambras
- 55 Goldenes Dach
- 56 Bohnof Square and Hotels Tyrol and de Europe
- 57 Theresien Strasse and Column of St. Ann
- 58 Tyrol, View of Mals
- 59 The Mountains near Innsbruck
- 60 Funeral at Innsbruck

## Salzburg.

- 61 Bridge and Castle Hohen
- 62 View of the River Salza
- 63 Government Building and Fountains

## Linz on Danube.

- 64 View toward Passau
- 65 Steamer and Tow Arriving from Vienna
- 66 View from the Bridge, showing hotel
- 67 View of River Front
- 68 Locomotive at Briganz
- 69 Wood Boat on the Danube
- 70 Boat
- 71 Austrian Chapel in the Pusterthal
- 72 Austrian County Church, Pusterthal
- 73 Church at Telfs, Valley of the Inn
- 74 View in the Dolomite Region
- 75 Castle of Bruneck
- 76 Street in Stertzing
- 77 " "

## Transylvania.

- 78 A Roumanian Peasant

- Girl Drawing Water
- 79 A Saxonian Peasant Girl in Winter Dress on Sunday
- 80 A Roumanian Peasant Girl at the Spring
- 81 Saxonian Peasant Girl and Lad
- 82 A Roumanian Couple
- 83 Saxonian Peasants' everyday Dress
- 84 A Roumanian Couple
- 85 A Saxonian Couple, Sunday Dress
- 86 A Roumanian Peasant Couple
- 87 A Saxonian Peasant in Office
- 88 Roumanian Peasant Lads
- 89 Saxonian Peasant Girls in Sunday Summer Dress
- 90 A Roumanian Wife
- 91 Saxonian Peasant Girls in Sunday Summer Dress
- 92 Roumanian Peasant Girls in the Field
- 93 Saxonian Peasant Girls at Work
- 94 Roumanian Wood Cutters
- 95 Saxonian Peasant Market Women
- 96 Roumanian Peasants, a Tavern Scene
- 97 Saxonian Peasants in the Presence of the Magistrate
- 98 Roumanian Peasants
- 99 Saxonian Peasant Girls Dressing for Sunday
- 100 A Roumanian Bride with Wreath of Flowers
- 101 A Roumanian Gardener
- 102 A Roumanian Bride Dressing for the Wedding
- 103 A Saxonian Peasant Family
- 104 Saxonian Peasant Lads
- 105 Roumanian Mountaineer
- 106 " Butter Girl
- 107 " Maid serving
- 108 Saxonian Peasant and Son
- 109 A Saxonian Girl and Grandmother
- 110 Saxonian Family
- 111 Group of Saxonian Children
- 112 A Roumanian Couple
- 113 A Saxonian Farmer Plowing

# INDIA.

Special attention is called to the fact that the list comprises many new and rare India subjects, such as Glacier Views, Snow Bridges, Rattan Bridges, in the Himalayas 16,000 feet and more above the sea level. In the Lidda and Scind Valleys, about the Sacred Cave of Amarnath, to which pilgrimages are made by the Hindoos, many of whom perish by the cold in attempting to reach this Holy Place; portraits and figures of the natives and their Religious Customs, Temples, Bridges and rare bits; Srinaggur and its floating gardens, curious bridges, bazaars for the sale of the world-renowned Cashmere shawls and other fine embroidery work; the winding River Jhelum with its many curves suggesting the pattern or design on all Cashmere shawls.

Those of Nepal, with its sacred Temples at Khatmandu, are especially rare, owing to the difficulty of white men entering this province, which divides India from China; for in this

country can be seen the mixture of Hindoo and Chinese architecture. Nepal is inhabited by many Hill Tribes, which tribes are ruled by its Rajahs, and although not under the British Government, it is under the protectorate of England.

Darjeeling and Mussoorie are two celebrated hill sanitariums 7,000 and 8,000 feet above the sea, in the famous Himalayas. These places are much resorted to by the English and travelers in the summer; as from Darjeeling can be seen the world's second mountain, Kinchinjunga, 28,756 feet high, its peak under eternal snow; 45 miles distant, yet apparently very near.

Delhi, Agra, and Ceylon finish the list. Many of the subjects listed were collected and made by Mr. Ballantine, of Bombay, a long resident in India, who is thoroughly conversant with the manners and customs of the people, and who has carefully brought these original plates to this country.

## CASHMERE.

### Srinaggur.

- 1 View down the Jhelum from Maharaja's City Palace
- 2 Maharaja's Suburban Palace on the Jhelum
- 3 Row of Poplars on the Bank of the Jhelum fronting British Residency
- 4 Bridge across the Jhelum and Panorama of Srinaggur
- 5 Fourth Bridge across the Jhelum, Panorama of the City and Citadel beyond
- 6 The Jhelum at Flood as seen from Takht-i-Suleiman above Munshi Bagh
- 7 Windings of the Jhelum in the Vale of Cashmere, giving rise to the shawl pattern
- 8 Bridge over the Nul-i-Mar, showing construction of Cashmere houses
- 9 Hindoo Temple and Perspective of the Apple Tree Canal opposite Chenar Bagh
- 10 Nishat Bagh on the Dul Lake
- 11 Verinag, with unfathomed Tank of Sacred Fish, built and resorted to by Akbar the Great (Mogul Emperor) during the summer months
- 12 Archibald Kiosk in Artificial Lake built by Akbar for his favorite wife
- 13 Panorama of Cashmere Valley from the Kiosk
- 14 Grand Poplar Avenue into the City of Srinaggur
- 15 Grand Poplar Avenue, Inside View
- 16 Suburbs and Citadel of Haripurbut
- 17 Maharaja's City Palace and Gilded Dome on the river Jhelum with Snowy Range
- 18 City Palace and Gilded Temple of Cashmere, Maharajah on the Jhelum
- 19 First Bridge (or Amir-i-Kuddal) across the Jhelum and Cashmere Boats
- 20 Looking up the Jhelum from Maharajah's Palace
- 21 Panorama from the Jhelum of the Temple and Citadel of Haripurbut
- 22 Hindoo Temple on the Slope of Srinaggur Citadel
- 23 Shah Hamaidan's Masjid, most ancient mosque in Srinaggur, on bank of Jhelum
- 24 Polo Ground and Famous Avenue of Poplars
- 25 First Bridge across the Jhelum
- 26 Results of a Cashmere Earthquake
- 27 Ancient Stone Bridge across the Nul-i-Mar
- 28 Pavilion to Shallmar Gardens
- 29 Temple of Peyetch, best preserved specimen of Hindoo architecture in Cashmere
- 30 Preparing to ride an Elephant
- 31 A Caravansary
- 32 Shrine in Hindoo Temple
- 33 Shrine in Hindoo Temple
- 34 Shrine in Hindoo Temple
- 35 Shrine in Hindoo Temple
- 36 Threshing Rice
- 37 Native Boats on the Jhelum
- 38 Across the Jhelum
- 39 Fakir in front of his self-made Tomb
- 40 Native Cook toasting Bread with his toes while Smoking
- 41 Bridge across the Nul-i-Mar
- 42 Cashmere Bazaar
- 43 Temple in Suburbs
- 44 A Bit of the Nul-i-Mar
- 45 Log Bridge across Nul-i-Mar
- 46 Panorama Views of the Floating Gardens on the Lake
- 47 Panorama of the Beautiful Lake Manusbal
- 48 Ancient Hindoo Temple nearly submerged on the Borders of Manusbal
- 49 The Rajah of Chitral and Attendants
- 50 Cashmere Shawl Merchants and Bankers
- 51 Grand Temple where Cashmere's Maharajah worships in state on river Jhelum
- 52 View of Third Bridge (or Futeh Kuddal) across the Jhelum, and portion of the City
- 53 Fourth Bridge (or Zulme Kuddal) across the Jhelum
- 54 Panorama of river Jhelum above Fourth Bridge
- 55 Beautiful Hindoo Temple on the Jhelum below Seventh Bridge
- 56 Curious old Bridge with houses on it across Nul-i-Mar Canal
- 57 Curious old Bridge with houses on it across Nul-i-Mar Canal
- 58 Pandrethan, an Ancient Hindoo Temple above the City on the Banks of the Jhelum
- 59 Maharajah's City Palace and Gilded Dome on the Jhelum with snowy range beyond
- 60 Maharajah's City Temple and Gilded Dome
- 61 Front View of Black Marble Pavilion and Fountains of Shallmar where Lalla Rookh was married to the Prince of Bokhara
- 62 Side View of same
- 63 Hindoo Temple of Takht-i-Suleiman, 1,000 feet overlooking Srinaggur
- 64 Gorge in the Seind Valley on the caravan route to Ladak
- 65 Towering Peaks with Snow drifted in Crevices overhanging caravan route to Ladak, Himalayas
- 66 Glacier and Village near Sonamurg on the road to Ladak
- 67 The Sanitarium of Gulmurg (Plateau of Roses) 4,000 feet above Srinaggur, showing snowy range in the background
- 68 Judicial Court at Islamabad, showing Head Waters of the Jhelum flowing out from under it
- 69 General View of the Ruins of the Grand Temple to the Sun at Martund
- 70 Three perfect Arches remaining of the Grand Temple to the Sun at Martund
- 71 General View of the Ruins of Grand Temple to the Sun at Martund
- 72 Waterfall with Kiosk above it, built by Akbar, at Verinag
- 73 Muchel, a village beyond the first snowy range of the Himalayas

- 74 Mucheel, showing snowy range still beyond
- 75 Prince Buldeo Singh and his Marble Pavilion
- 76 Towering Peaks with snow drifted in crevices overhanging caravan route to Ladak
- 77 Interior of the Sacred Marble Cave of Amurnath, 16,000 feet above the sea
- 78 Dead Pilgrim found frozen on the Mountains of Amurnath
- 79 Specimen types of Indian Frontier Warriors, Himalayas
- 80 Wild Mountain View in Lidda Valley
- 81 Fog lifting from snow-capped Peaks on the road to Amurnath, at early dawn
- 82 Snow Bridge on the road to Amurnath, Himalayas
- 83 Gorge with Snow Bridge above vegetation limit *en route* to Amurnath
- 84 Above vegetation near the Sacred Cave of Amurnath
- 85 Marble Cliffs and Sacred Hindoo Cave of Amurnath, 16,000 feet above the sea
- 86 View from the Sacred Cave of Amurnath, 16,000 feet above the sea
- 87 Grand Panoramic View (above vegetation) of the Mountains and Glaciers

- around the Sacred Cave of Amurnath
- 88 Black Glaciers at Amurnath, 16,000 feet above the sea
- 89 Woosun Kuddul, characteristic Himalayan Bridge on the road to Ladak in the Seind Valley
- 90 Grand View in the Seind Valley
- 91 Gorge at North Entrance of Seind Valley blocked by snow shot in avalanches from peaks thousands of feet above
- 92 Accumulated Snow Avalanches and tremendous Precipices on the road to Ladak
- 93 Caravan *en route* from Russian Kashgar to Arabian Mecca via Bombay, requiring one year to complete the pilgrimage. Photographed in the Seind Valley
- 94 Glaciers at Sonamurg, 20,000 feet above the sea, Himalayas
- 95 Glacier and Village near Sonamurg on the road to Ladak
- 96 Glacier and Forest at Sonamurg, on the road to Ladak
- 97 A Group of Native Musicians
- 98 Benares Ancient Buddhist Tope at Sarnath
- 99 Benares, the Burning Ghat

- 100 Benares, fronting the Ganges

#### Burmah.

- 101 Mandalay, Native Officer of High Rank
- 102 The Temple at Promé
- 103 Triclinopolis Mundapum, showing three of the Carved Horse Pillars
- 104 Great Pagoda at Pegu
- 105 Great Mosque at Beejapore
- 106 Vizianagram Ancient Hindoo Temple
- 107 Vizianagram Carved Stone Door of Temple
- 108 Jeypore, the Mahat from the Garden
- 109 Trichinopoly, Rock and Temple
- 110 Cawnpore Memorial, full view
- 111 Cawnpore, Scene of Massacre
- 112 Cawnpore, Memorial Well of the Mutiny
- 113 The Black Bull
- 114 The Seven Temples
- 115 Native Snake Charmers
- 116 Native Prepared for Cremation
- 117 Hairy Family, Mat Phoon (Mother)
- 118 Hairy Family, Mat Mi (Daughter)
- 119 Hairy Family, Moungh Phoset (Son)
- 120 Hairy Family, Moungh Phoset, standing

## CEYLON.

### Colombo.

- 1 Ancient Buddhist Temple with Carvings
- 2 Arrival of a Train of Coffee Carts
- 3 Sensation Rock on the road to Kandy
- 4 Temple of the Sacred Tooth of Buddha
- 5 Natural Arch on the Waggon Road.

- 6 Root of the India-rubber Tree
- 7 Singalese Girl
- 8 Singalese Man
- 9 Native Girl with Jewelry
- 10 Native Girl with Jewelry
- 11 Native Hindoo
- 12 Street in Pettate
- 13 The Harbor
- 14 Natives Plowing with Ox-team
- 15 Madura, Grand Pagoda

- and Gopura
- 16 Madura, Sacred Tank and Island Temple

### Kandy.

- 17 Panorama of the City
- 18 Kandian Lady
- 19 Interior Pagoda Temple
- 20 Tamconlalu Street
- 21 Street Scene
- 22 Cabbage Palms

## SOUTH PACIFIC OCEAN—AUSTRALIA.

### Melbourne.

- 1 Menzie's Hotel
- 2 Collins Street, East
- 3 Large Bourke Street
- 4 The Esplanade, St. Kilda
- 5 Steamship Pier, Sandridge
- 6 General Post-Office
- 7 Government House
- 8 Victorian Treasury
- 9 The Royal Mint
- 10 Government Offices and Treasury Gardens
- 11 Bank of Australasia
- 12 Town Hall Organ, fifth largest in the world.
- 13 Panoramic View, Sydney
- 14 View of the Harbor and Sydney

- 15 Australian Black Fellow with Kangaroo and Boomerang
- 16 Australian Native Woman and Child
- 17 A Forest of Ferns
- 18 Scotts Church, Collins Street, Bourke and Wills Monument

### Tasmania—Hobart Town

- 19 A Fiji Island Chief
- 20 Hobart Town from the Observatory
- 21 Hobart Town from Venus Hill
- 22 The Sleeping Maiden
- 23 Monument to Sir John Franklin

- 24 Interior of Museum, Kangaroo
- 25 Interior of Museum, the Moa
- 26 Interior of Museum, Skeleton of Killer Whale
- 27 The Hoon Road up Mt. Wellington
- 28 Tasmanian Forest with Ferns
- 29 Tasmanian Forest with Ferns
- 30 Fern Tree Bower, Mt. Wellington
- 31 Cook's Monument at the Bower
- 32 Tasmanian Forest
- 33 Fern Grove
- 34 Forest of Eucalyptus Trees, near Hobart Town

- 35 Near Summit of Mt. Wellington  
36 Summit of Mt. Wellington

- 37 Elizabeth Street  
38 A Cab-Stand  
39 Residence of Governor

- 40 U. S. Swartara in the Harbor

## NAPOLÉON SERIES.

- |  |  |   |
|--|--|---|
| 1 Birthplace of Napoleon, Island of Corsica          | 30 " Standing                                      | 60 Napoleon and Berthier at the Battle of Marengo                   |
| 2 Birthplace of Josephine, Island of Martinique      | 31 " Head  | 61 Battle of Hannau, October 30th, 1813                             |
| 3 Napoleon at Toulon                                 | 32 Letizia Bonaparte, Mother of Napoleon           | 62 Battle of Moscow, September 7th, 1812                            |
| 4 Battle of Arcola                                   | 33 Josephine, Empress of France                    | 63 Battle of Somme Sierra, November 30th, 1808                      |
| 5 Napoleon at the Bridge at Arcola                   | 34 Marie Louise, Empress of France                 | 64 Battle of Eylau  |
| 6 Reign of Terror in Paris                           | 35 King of Rome                                    | 65 Battle of Austerlitz, Napoleon and Staff                         |
| 7 Battle of Roveredo                                 | 36 Jerome Bonaparte                                | 66 Bonaparte at Jaffa, March 11th, 1799                             |
| 8 Meeting of the Emperors of France and Russia       | 37 Joseph Bonaparte                                | 67 Bonaparte Elected Consul   |
| 9 Battle of Aboukir                                  | 38 Charles Bonaparte                               | 68 Death of Marceau, September, 1796                                |
| 10 Passage of the Great St. Bernard                  | 39 Massena, Prince of Essling                      | 69 Triumphal Entry of the National Guard into Paris                 |
| 11 Battle of Austerlitz                              | 40 Murat, King of Naples                           | 70 Battle of Fleurus  |
| 12 Battle of Jena                                    | 41 Lannes, Duc de Montebello                       | 71 The States General, 1789   |
| 13 Entree of the French into Venice                  | 42 Clugnet   | 72 Battle of Wagram, July 17th, 1809                                |
| 14 Battle of Trafalgar; death of Admiral Lord Nelson | 43 General Kleber                                  | 73 Napoleon and the Queen of Prussia, Berlin, July 6th, 1807        |
| 15 Napoleon Returning from Russia                    | 44 Marshal MacDonald, Duc de Tarentum              | 74 The Return of the Body of Napoleon to Paris, December 15th, 1840 |
| 16 Coronation of Napoleon as Emperor                 | 45 General Dessais                                 | 75 Napoleon Head (David)  |
| 17 Napoleon's Army Retreating from Russia            | 46 General La Tour Douvergne                       | 76 King of Rome   |
| 18 Napoleon Signing his Abdication                   | 47 Duc de Reichstadt                               | 77 Marshal De Saxe  |
| 19 Napoleon Announcing his Divorce to Josephine      | 48 General Oudinot, Duc de Reggio                  | 78 " Ney (Girard)   |
| 20 Napoleon's Farewell at Fontainebleau              | 49 Marshal Martier, Duc de Treviso                 | 79 " McDonald (Standing)  |
| 21 Napoleon's Return from the Island of Elba         | 50 Marshal Marmont, Duc de Ragusa                  | 80 Louis XVI. (Full figure.)  |
| 22 The Battle of Waterloo                            | 51 Marshal Angereau, Duc de Castiglione            | 81 Dumouriez, Minister of War and Foreign Affairs                   |
| 23 The Old Guard Dies, but Never Surrenders          | 52 Baron (General) Combronne                       | 82 Miraheau   |
| 24 The Landing Place, Jamestown, St. Helena          | 53 Junot, Duc D'Ahremtes                           | 83 Rohespierre  |
| 25 Napoleon's Prison, St. Helena                     | 54 Berthier, Prince of Wagram                      | 84 The Coronation of Josephine                                      |
| 26 Napoleon's Grave, St. Helena                      | 55 Davoust, Duc de Auerstadt and Prince of Eckmuhl | 85 At Waterloo  |
| 27 Napoleon at the Battle of the Pyramids            | 56 Napoleon at Battle of the Pyramids (Julian)     | 86 Battle of Essling, Death of Duke de Montebello                   |
| 28 Napoleon at Waterloo                              | 57 Coronation of Josephine, (David)                | 87 Death of Napoleon  |
| 29 " In 1814   | 58 Marriage of Marie Louise                        |   |
|  | 59 Reign of Terror, the Conciergerie               |   |

## ST. PAUL SERIES.

- |                                   |                                      |                                   |
|-----------------------------------|--------------------------------------|-----------------------------------|
| 1 Ruins of Baalbec                | 14 Cenchreae                         | 27 Interior Great Temple, Baalbec |
| 2 Miletus                         | 15 Ephesus                           | 28 Jerusalem                      |
| 3 Spot where Paul Stood, Athens   | 16 Damascus                          | 29 Tomb of Lazarus, Bethany       |
| 4 Antioch, in Syria               | 17 Rock of Corinth                   | 30 Jaffa                          |
| 5 Tarsus                          | 18 Peridos, with Long Walls Restored | 31 Rome                           |
| 6 Straits of Messina              | 19 Modern Athens                     | 32 Tophet                         |
| 7 Smyrna                          | 20 Arches in Alexandria              | 33 Pantheon, Rome                 |
| 8 Tiberias                        | 21 Troas                             | 34 Port of Beirut                 |
| 9 Syracuse                        | 22 Antioch of Pisidia                | 35 Mitylene                       |
| 10 Theater at Ephesus             | 23 Phillippi                         | 36 Konieh                         |
| 11 Reggio                         | 24 Corinth                           | 37 Rhodes                         |
| 12 Exterior Great Temple, Baalbec | 25 The Piræus                        |                                   |
| 13 Propylon, at Athens            | 26 Alexandria, Egypt                 |                                   |
|                                   | 27 Mote of Puteoli                   |                                   |

## THE CRUSADES.

- |                             |   |   |
|-----------------------------|---|---|
| First Crusade.              | to Pilgrims                                       | Vietims                                   |
| 1 Hospitality of Barbarians | 2 Foulque - Nerra Assailed by the Phantoms of his | 3 Peter the Hermit, Preaching the Crusade |



- 4 The War-Cry of the Crusaders
  - 5 Walter the Penniless, in Hungary
  - 6 The Army of Priest Volkmar and Count Emilo Attack Wersburg
  - 7 The Second Crusaders Encounter the Remains of the First Crusaders
  - 8 Celestial Phenomena
  - 9 Astonishment of the Crusaders at the Wealth of the East
  - 10 Godfrey Meets the Remains of the Army of Peter the Hermit
  - 11 Priests Exhorting the Crusaders
  - 12 Crusaders Throwing Heads into Nicea
  - 13 The Battle of Nicea
  - 14 The Battle of Dorylaeum
  - 15 Burying the Dead After the Battle of Dorylaeum
  - 16 Battle of Antioch
  - 17 Florine of Burgundy
  - 18 The Massacre of Antioch
  - 19 Bohemond alone Mounts the Ramparts of Antioch
  - 20 Barthelemi Undergoing the Ordeal of Fire
  - 21 The Road to Jerusalem
  - 22 Enthusiasm of Crusaders at the First View of Jerusalem
  - 23 Second Assault of Jerusalem; the Crusaders Repulsed
  - 24 Apparition of St. George on the Mount of Olives
  - 25 Godfrey Enters Jerusalem
  - 26 The Discovery of the True Cross
  - 27 Godfrey Imposes Tribute Upon the Emirs
  - 28 Gerard of Aresner Exposed on the Walls of Arsuf
  - 29 The Crusaders Massacre the Inhabitants of Caesarea
  - 30 Two Hundred Knights Attack 20,000 Saracens
  - 31 Death of Baldwin, King of Jerusalem
  - 32 Ugazy Gives Gauthier his Life
- Second Crusade.**
- 33 Louis VII. Receiving the Cross from St. Bernard

- 34 Destruction of the Army of Conrad III. of Germany
- 35 Surprised by the Turks
- 36 Louis VII

**Third Crusade.**

- 37 Saladin
- 38 Glorious Death of De Maille, Marshal of the Temple
- 39 Death of Frederick of Germany
- 40 Siege of Ptolemais (1)
- 41 Siege of Ptolemais (2)
- 42 Richard Cœur de Lion, in Reprisal, Massacres Captives
- 43 Crusaders Surrounded by Saladin's Army
- 44 Richard Cœur de Lion and Saladin at the Battle of Arsuf
- 45 The Battle of Arsuf
- 46 Richard Cœur de Lion Delivering Jaffa
- 47 Blondel Hears the Voice of Richard

**Fourth Crusade.**

- 48 Dandolo, Doge of Venice, Preaching the Crusade

**Fifth Crusade.**

- 49 The Emperor Alexius Poisoned and Strangled by Murzoule
- 50 Murzoule Parleying with Dandolo
- 51 Entry of Crusaders into Constantinople

**Sixth Crusade.**

- 52 Crusade Against the Moors of Grenada
- 53 The Crusade of the Children
- 54 A Friendly Tournament
- 55 For the Defense of Christ
- 56 St. Francis of Assise Endeavors to Convert Sultan Melle-Kamel
- 57 The Baptism of Infidels
- 58 Departure of Thihaut, King of Navarre
- 59 The Crusader's War Machinery

**Seventh Crusade.**

- 60 Gaining Converts

- 61 The True Cross
- 62 The Benediction
- 63 Dispersion of the Syrian Army by a Sand Tempest
- 64 St. Louis Before Damietta
- 65 Te Deum After Victory
- 66 The Crusaders of the Nile
- 67 A Message from the East
- 68 St. Louis in Prison in Egypt
- 69 Arrival at Cairo of Prisoners of Minich
- 70 Christian Cavaliers Captive at Cairo
- 71 Death of Almadad
- 72 The Emir's Head Shown in the Seraglio

**Eighth Crusade.**

- 73 The Sultana Chagreed-Eddomand, the Emir Sulf Eddim
- 74 A Celestial Light
- 75 The Cruelties of Blhars
- 76 The Captives
- 77 The Departure from Algez-Moites
- 78 The Night of Aug. 25, 1270; St. Louis' Death
- 79 Prayer for the Dead
- 80 Assassination of Henry of Germany
- 81 Edward III. of England, Kills his Would-be Assassin
- 82 The Dishonorable Truce
- 83 Invocation to Mahomet
- 84 Sanuto Showing Maps of the East to Pope John XXI
- 85 The Veteran
- 86 Constantine Palaeologus Haranguing the Defenders of Constantinople
- 87 Mohamet II. Before Constantinople
- 88 The Ottomans Penetrating Hungary
- 89 The Sinews of War
- 90 The Crusaders Crossing Mt. Taurus
- 91 An Enemy of the Crusaders
- 92 The Battle of Lepanto
- 93 The Departure
- 94 The Order of Chivalry
- 95 The Return
- 96 The Christian Army in the Mountains of Judea
- 97 Confession
- 98 Miracles
- 99 Troubadours Singing the Glories of the Crusades

## REPRODUCTIONS.

- 1 First Singing of the Marseillaise
- 2 Lady Washington's Reception
- 3 Marie Antoinette
- 4 Marriage of Pocahontas
- 5 Death of Robespierre
- 6 Descent from the Cross (Rubens)
- 7 Crucifixion (Rubens)
- 8 Lady Godiva

- 9 Doorway of an Egyptian House (Jerome)
- 10 Jerusalem in her Grandeur
- 11 Jerusalem in her Fall
- 12 Pass of Suk Wada Barada
- 13 Church of Holy Sepulcher
- 14 Massacre of St. Bartholomew
- 15 Entrance to Holy Sepulcher

- 16 The Good Story
- 17 A Grecian Lady at Home
- 18 Luxembourg Gardens during Reign of the Directory
- 19 Watt's First Experiment with Steam
- 20 Shakespeare and Contemporaries
- 21 Ruhen's Last Judgment
- 22 Assurbanipal Hunting, has-relief

23 War Booty	72 Voltaire's Last Visit to Paris	114 Madame Lebrun and Child
24 Thaw in the Ukraine	73 Christ Rejected	115 Return of the Prodigal Son (Greuze)
25 Trial by Weight	74 Roll Call, Crimea	116 Excommunication of Robert the Pious (J. P. Laurens)
26 After the Fight	75 Meissonier's, 1867	117 After the Massacre of St. Bartholomew
27 Un Hangar	76 A Slave Market in Cairo	118 The Night Before Christmas
28 L'Eminence Grise	77 Selecting a Slave, Cairo	119 Landing of the French Army in Africa, June 14th, 1830
29 Cambryses at Pelusium	78 Pastime in Ancient Egypt	120 Battle of Navarin, October 20th, 1827
30 Return from Market	79 An Affair of Honor	121 Surprise of Constantine, October 13th, 1534
31 Satyr and Nymphs	80 Pharaoh's Bearers of Bad Tidings	122 Battle of Fontenoy, May 11th, 1745
32 The Smoker's Rebellion	81 Building the Pyramids	123 Palace Royal, Paris, July 30th, 1830
33 Return to the Convent	82 The Master of the Hounds, Cairo (Gerome)	124 Old State House, Philadelphia, erected 1755
34 Poupelan Dance	83 Cleopatra before Cesar	125 Independence Hall in Philadelphia in 1776
35 Before the Alcaide (Spanish)	84 A Nubian Slave (Gerome)	126 A Beautiful Masquerader
36 Schisms	85 A Muezzin, Cairo	127 Good Cheer
37 Appian Way in Time of Augustus	86 John Brown on his Way to Execution	128 The Fair Penitent
38 Breaking Up the party	87 Derby Day Firth	129 The Grandmother
39 Le Hero de la Fete	88 Parting of Hector and Andromache	130 " Fair Ruth
40 La Sainte Collation	89 Franklin at the Court of France	131 " Clee, by Chalon
41 Adjournment of the Grand Council, Venice	90 Napoleon at the Battle of the Pyramids	132 " Reconnoitering
42 The Convent in Arms	91 Col. Taylor at the Battle of Okeechobee	133 Longfellow in his Study
43 Spanish Cafe	92 Death of Warren, Bunker Hill	134 Rubens and his Model
44 Abduction of Amygone	93 Moli Pitcher	135 The Village Wedding
45 Massacre of the Marmelukes	94 Death of Montgomery, Quebec	136 " Golden "
46 Dancing Girls of Gades	95 Council of War. "I propose to fight it out on this line if it takes all summer."	137 Russian Wedding Feast
47 Calling the Roll After Pillage	96 Death of Gen. Wolfe	138 The Bull (Paul Potter)
48 Carrying Water in a Sieve	97 Quatre Bras, 1815	139 " Last Cartridge
49 The Old Hotel de Ville, Granada	98 Balclava, 1854, the Return	140 " Night before Christmas
50 Phryne Before the Tribunal	99 In the Row, Hyde Park	141 " Dromios
51 The Baggage of Croquemitaine	100 Prayer Procession for Rain in Germany	142 Reverie (Tillies)
52 Between Friends	101 Andromeda Released by Perseus (Rubens)	143 Cupid and the Butterfly (Bougereau)
53 Charity	102 Death of Queen Elizabeth (Delaroche)	144 Gallo Roman Bath (Hierle)
54 An Arabian Tribunal	103 The Return (H. Mosler)	145 The Laughter (Joseph Cooman)
55 The Flower Market, Paris	104 After the Duel (Sieard)	146 Brother and Sister (Bougereau)
56 Interior of Santa Maria, Rome	105 The Holy Family (Mutillo), Louvre	147 The Toiler (F. Dufaix)
57 The Procession of the Bull Apis	106 The Consoling Virgin (Bougereau)	148 Chilly (Alphonse Dumas)
58 The Dance	107 Joan of Arc	149 A Cythere (Lionel Royer)
59 Dance of the Almeh	108 The Dissection (Rembrandt)	150 The Bather (Ed. Mitchell Lancon)
60 The Presentation of the Singer	109 Sons of Edward (Delaroche) Louvre	151 A Dreamer (L. Hodebert)
61 Charge of the Ninth Cuirassiers	110 Anthony's Oration over Cesar (J. D. Court)	152 Hung on a Nail (L. Deschamps)
62 The Cardinal's Reception	111 Chaste Susan (Henner)	153 The Bather (Bougereau)
63 After the Bath	112 Psyche Enraptured (Curzon) Luxembourg	154 The Awakening
64 For Sale	113 Famine, Folly and Crime, Musee Wirtz	155 The Soldier's Dream (Detaille)
65 The Education of a Prince		
66 First Meeting of Mary Stuart and Rizzio		
67 Reception of the Great Conde by Louis XIV.		
68 The Sword Dance at a Pacha's		
69 The Rival Confessors		
70 The Last of the Girondists		
71 The Reception of an Ambassador		

## GREEK ART.

AS EMBODYING GREEK MYTHOLOGY.

(Photographed and Copyrighted by S. A. Scull.)

The chief considerations that determined the selection and arrangement of this collection are:

1st. A purpose to illustrate the changing features of those worships that gave ideals to the best Art of Greece.

2d. The presentation of the development of art forms from crudeness to perfection.

In Greece, Photographs were made of scenes connected with sacred centers—afterward, so far as was practicable, groups were so formed as to show archaic types of chief deities, and to them follow, unitedly, the elevation of the ideals and the progress in Art representation.

These groups were commenced in the Museum of Olympia, and in the private galleries and the Museums of Athens; the original double purpose was measurably accomplished by photographing the gems of Greek sculpture in Rome, Naples, Paris and London.

Two departures from the plan have seemed advisable. 1st. The Cyclopean masonry of Argolis has been presented before the Hellenic order. 2d. After illustrations of the expansion of Greek Ideals, and the advance in Greek Art-forms as demonstrated in the workshops of Olympia, Delphi and Boeotia, a brief digression is made to present the marked contrast furnished by those Asiatic types that exerted more or less influence over Hellenic Belief and Art.

Hellenic subjects are resumed and the order pursued is indicated by successive headings. That art-students may be interested in mythological Relationships and thus be induced to form collections of groups, photographs are placed below the usual rates.

There is in preparation a Descriptive Catalogue of this collection. It will contain details concerning the most important subjects; a list of the best works of reference for students of the art-relations of Greek Mythology; locations of the principal fields of the excavations made in the interests of Greek classical studies. This last list will cover the excavations that are finished and whose "finds" are available for archaeological study; also those that are progressing and prospective.

### Argolis.

#### Cyclopean Masonry.

##### (a) Tiryns.

- 1 N. Plateau from West
- 2 S. Plateau from West
- 3 S. W. Wall
- 4 Arches of S. Gallery
- 5 S. Plateau from East
- 6 Entrance to E. Gallery
- 7 Side Arch of E. Gallery

##### (b) Near Argos.

#### 8 Ancient Hera-Temple

##### (c) Mycenae.

- 9 Entrance to Treasure-Tomb (Cyclopean)
- 10 Ashlar Masonry. (Cyclopean Wall where Ashlar Block has Fallen)
- 11 Lion's Gate

### Epirus.

Chief Deities—Zeus, Dione and Aphrodite.

##### (a) Dodona Bronzes.

(Carapanos, Col. Athens.)

- 12 Head and Figurine of Zeus
- 13 Heads of Goddesses
- \*14 Priestess [2]
- 15 Athena, front and reverse
- 16 Apollo, stone. (Louvre.)

##### (b) Paramythia Bronzes.

(British Museum.)

- 17 Zeus and Serapis
- 18 Dione
- 19 Poseidon, Neptune
- 20 Apollo
- 21 Aphrodite

### Elis.

Valley of Olympia.

Chief Deities—Cronus, Zeus and Hera (Juno).

- 22 Map of Olympia
- 23 Mt. Cronus and Ruins of Zeus Temple

#### 24 Ruins of ancient Hera-Temple

Sculptures found at Olympia and now in the Olympia Museum. (except No. 42.)

##### (a) Zeus Types.

- 25 Three small bronzes
- 26 Bronze Statuette
- 27 Bronze head
- 28 Head in stone, Zeus (?)
- 29 Zeus, Pelops and Cnemans from E. Pediment of Zeus Temple

##### (b) Hera Types.

- \*30 Terra-cotta head
- \*31 Colossal head from statue in Hera Temple

##### (c) Bronze Types of Deities.

- 32 Plaque in four bands, lower one showing Artemis
- 31 Apollo, front and side
- 32 Two Goddesses (?)
- 33 Hercules and Bow
- 34 Sphinx
- 35 Head of Gorgon

##### (d) Sculptures from Zeus Temple.

- 36 Apollo and Centaur (W. Pediment)

##### Athena Metopes.

- 37 Hercules and Nemean Lion
- 38 Hercules cleansing Augeas' Stable
- 39 Hercules presenting Stymphalian Bird. (Athena is a cast.)
- 40 Athena (original) receiving Stymphalian Bird. (Louvre)

##### (e) Sculptures not from Zeus Temple.

- \*41 Head of Aphrodite
- 42 Nike (Victory) by Praxiteles.

Types of Chief Deities of Olympia, but not found in Olympia

##### (a) Types of Cronus.

- 43 Bronze Statuette. Louvre

##### (b) Zeus Types.

- \*44 Two Bronze Figurines. (Louvre.)
- 45 Z. Ammon found in Herculaneum. Naples Museum
- \*46 Zeus of Elis, from coin of Elis. (Cy.)
- 47 Cumean Zeus, large demi-statue. (Naples Museum.)
- 48 Colossal Z. Bust (Louvre).
- 49 Z. Bust from Sicily. (Cy.)
- 50 Z. Bust found at Ostia (Vatican)

##### (c) Hera (Juno) Types.

- 51 Bronzes, head in early style; seated figure in later style. Louvre
- \*52 Heads of Hera on Coins of Samos
- 53 Ancient Statue of Hera found on the Island of Samos. Louvre
- \*54 Head of Hera on Coins of Argos
- \*55 Ancient Head of Hera. Villa Ludovisi. (Cy.)
- 56 Marble Head of Hera. British Museum
- \*57 Hera, Bust, from Farnese Collection. Naples Museum
- \*58 Juno Ludovisi, from cast in Fitzwilliam Museum, Cambridge, Eng.
- 59 Juno Barberini, found on Viminal Hill. Vatican
- 60 Juno Sospita, from Palatine Hill, Vatican
- 61 Juno (Hera). Statue in Portico of Masterpieces. Naples Museum

### Phocis.

Chief Deities—Apollo, Artemis (Diana) and Leto.

##### (a) Crassi.

- 62 "Sacred Platu"

##### (b) Delphi (modern Castris).

- 63 Entrance to Delphi
- 64 Cliffs of Delphi
- = Ancient Tomb

- 66 Wall of Apollo Temple
- 67 Bay Tree Sacred to Apollo
- 68 Branch of Bay Tree
- 69 Bath on the Pythia and Castellan Spring
- 70 Castellan Spring and Greek Women
- 71 Hill of Amphitryon Council
- 72 "Sacred Plain," from Amphitryon Hill

Types of Delphic Deities, but not Found at Delphi.

(a) *Apollo Types.*

- 73 Two Bronzes—left one found at Chiudi; right one probably a copy of Apollo of Miletus by Canachus. British Museum
- \*74 Apollo with Plectrum—Found at Pompeii. Naples Museum
- 75 Apollo Statue found on Island of Thera. Athens
- \*76 Apollo Statue from Greece, Boeotia. British Museum
- 77 Apollo from Tenae. Cy
- 78\*Strangford Apollo. British Museum
- 79 So-called Apollo and Omphalos, probably an Athlete, found in Athens
- 80 Statue from Choiseni-Gouffier Collection, probably a pugilist. British Museum
- 81 Apollo Citharæus, found in Garden of Quirinal. Vatican
- \*82 Apollo Steinhauser, resembling Apollo Belvidere. Cy. Basle
- 83 Apollo Belvidere. Cy

For other Apollo Types see Olympia, Orchomenos, Ptoos, Thasos, Paros, Thessaly, also Plate (No. —) giving Apollo with Plectrum and Lycian Apollo

(b) *Artemis (Diana) Types.*

- 84 Marble Statue of Artemis, found in the Island of Delos. Athens
- 85 Portion of Ancient Statue probably Artemis, found in Frankobrysis Arcadia. Athens
- 86 Statue of Artemis. Louvre
- 87 Artemis of Versailles, from Cast Fitzwilliam Museum in Cambridge, England
- 88 Diana Lucifera, or Light Bearer. Vatican
- 89 Small Statue of Artemis, probably Archaistic. Naples Museum

For types of Deities more allied in titles than in characters, see Olympia and types of "Asiatic Deities."

**Island of Delos.**

Deities—Apollo, Artemis (Diana) and Leto.

*Sculptures Found in Delos.*

- 90 Nike (Victory) probably by Archermos. Athens
  - 91 Two Heads of Statues, the left one probably Zeus. Athens
  - 92 Boreas and Oreithyia. Athens
  - 93 Draped Figure. Athens
- See "Types of Artemis."

**North Boeotia.**

(a) *Orchomenos.*

Deities—The Graces

*Sculptures found at Orchomenos.*

- 94 Grave—Stele—inscribed by Alxenor, when photographed the inscription was covered. Athens

- \*95 Head of a Goddess (?) Skouloudi. Col. Athens
- 96 Orchomenos Apollo

(b) *Mt. Ptoos.*

Deity—Apollo.

*Sculptures found at Ptoos.*

- \*97 Marble Head
- 98 Apollo Statue. Athens
- 99 Apollo Statue, resembles a Bronze Apollo in the Louvre. Athens
- \*100 Bronze Figure of Apollo in the Louvre. Cy

**South Boeotia.**

(a) *Thebes.*

Legend of Oedipus.

- 101 Part of the Cadmea
- 102 Mt. Cithæron
- 103 Mt. Helicon
- 104 "The Divided Way" where Oedipus murdered King Laius
- 105 Fountain of the Purification of Oedipus

(b) *Tanagra Figurines.*

- (1) In private collection of M. Skouloudi. Athens
- 106 Two Figures, Phœnician Style
- 107 Two Figures, Crude Style
- 108 Two Figures, Advancing Style
- 109 Two Figures, Good Style
- 110 " " Excellent Style
- 111 Two Figures, Perfect Style
- \*112 Small Figurine and a part of a Bust of Aphrodite
- (2) Tanagra Figurines in Pennsylvania Academy of Fine Arts
- 113a Another View
- 114 Four Figurines

## ASIATIC ART.

**Asia Minor.**

Deities—"Mother-Goddesses," and Diana of the Ephesians."

*Sculptures Illustrating Deities.*

Fragment of Relief showing head of Astarte, Capitol Museum, Rome

- 2 Colossal head of Cybele. Capitol Museum, Rome

- 3 Relief of Cybele-type. Louvre
- \*4 Cybele Enthroned. Louvre
- \*5 Xoonon of Diana of the Ephesians. Cy
- 6 Diana of the Ephesians. Athens
- 7 Diana of the Ephesians. Naples Museum

*Sculptures from Asia Minor.*

- 8 Couchant Lion, found at Apollo Temple near Miletus. British Museum

- \*9 Sitting Statue from Sacred Way to Apollo Temple near Miletus. British Museum
- 10 Relief from Harpy Tomb at Xanthus. Demeter and Persephone Receiving Funeral Offerings
- \*11 Harpy bearing in her arms a child form
- \*12 Harpy bearing in her arms a child form, similar to one above

# PELOPONNESSUS.

Corinth.	Argos.	Apollo. Athens
1 Aegeocritus at Corinth	*5 Shield of Argos.	10 Demeter (Ceres). Penna.
2 Herakles and Bow, marble relief. Carapanos Col. Athens	*6 Head of Gorgon. Cast	Academy of Fine Arts
	*7 Figure thought to be the basis of "the Canon" of Polykleitos. Argos. Cy	11 Another view of the above Demeter statue
Sparta.	8 A Doryphorus in Naples is thought to preserve the type of the above figure.	Epidaurus.
*3 Grave, relief. Deities receiving offerings. Cast. Athens		12 Mounted Amazon. Athens
*4 Grave, relief. Cast. Similar to above. Athens	Megara.	*13 Aesculapius Relief. Athens
	9 A crude figure, probably	*14 Athena, small marble statue. Athens
		*15 Aphrodite, fine marble statue. Athens

## FROM GREENLAND'S ICY MOUNTAINS.

13 Beautifully Colored Views, \$19.50.

A series of illustrations of this well-known and popular hymn have been arranged expressly for us, and no other dealer or manufacturer has control of the negatives. The coloring is exquisite, and when properly thrown on the Screen with a Dissolving Stereopticon gives an effect which we think is far more beautiful than any of the other numerous illustrative hymns and poems published. This set comprises 13 slides beautifully colored, and is not furnished plain.

### No. 1. "From Greenland's Icy Mountains."

As indicated by the first two lines of the hymn; a part of the first picture shows an iceberg and the frozen seas of the North, while the other part represents a Tropical Indian scene with palm trees and a glorious sunset.

No. 2. Shows a portion of an Island. In the foreground, the ocean, with a Coral reef peeping up from the moon-lit waters.

Nos. 3-4. "Where Afric's sunny fountains roll down their golden sands, From many an ancient river, etc."

This view represents the "golden sands" of Africa; a group of natives with their camels halted at a "sunny fountain" for rest; while "from many an ancient river" shows a typical scene along the borders of the Nile, showing a ruined temple and one of the native Dahabeehas floating down the river.

No. 5. "From many a palmy plain they call us to deliver their land from errors Chain."

Deplets a palmy plain, its glittering sands, luxuriant palm trees, another group of camels, dromedaries and Arabs, with a sheltering tent to shield them from the noon-day sun.

Nos. 6-7. "Can we, whose souls are lighted with wisdom from on high, Can we, to men benighted the lamp of life deny?"

Allegorical picture representing a clergyman in the pulpit; in the distance a portion of a church, in the foreground a number of people wending their way to divine services; an open Bible, with an old-fashioned lamp resting thereon, from which burning incense is arising toward a distant view of the heavenly city.

### Nos. 8-9. "Salvation! O Salvation! The joyful sound proclaim, 'Till earth's remotest nation, Has learned Messiah's name."

In the first, the view shows a portion of the place of the crucifixion with its three crosses, a crescent moon rising from the waters, while through the air are floating Angels bearing trumpets with which "the joyful sound" is proclaimed. In the latter, simply a portrait of the Savior, after Guido, showing him crowned with thorns and his blood dropping from numberless wounds; a background of ocean and mountains with a portion of plain, and palm trees showing thereon, in the center of which the portrait is set, making it a very striking and pleasing picture.

Nos. 10-11. "Waft, waft, ye winds, his story, and you, ye waters, roll, Till, like a sea of glory, it spreads from pole to pole."

Two of the most beautiful of the views of this series. An ocean steamer is seen tossing on the billowy sea and a distant view of land is shown; while in the latter is seen a view only to be seen at sea where the entire expanse of water, lighted up by the setting sun, shines like a "sea of glory" and seems to "spread from pole to pole."

Nos. 12-13. "Redeemer, King, Creator, In bliss returns to reign."

In 12 is shown an allegorical picture, in the immediate foreground the Holy Bible, on which is resting a crown of thorns; a little further back the hill showing the three crosses with the figure still hanging thereon, and in the extreme background a view of Jerusalem. No. 13, the last picture of the series, is an ideal view of the "Redeemer, King, Creator," accompanied with a host of Angels returning to reign.

## OUR NEW SYSTEM OF SALE.

With this season we have inaugurated a new system of sale which we think will prove very advantageous to "Travel Classes," "Sabbath Schools," "Lantern Slide Clubs," "Camera Clubs," etc., etc., etc., "Art Classes," and those who are interested in this line of work.

We stipulate that you shall purchase not less than 50 slides at one time at the regular price as listed in our catalogue, less 10 per cent discount. On or before the expiration of 90 days from date of purchase if you will return to us the entire number of slides in good condition, we will allow you one-half of the amount paid for them toward the purchase of an equal number of slides; so that if you pursue this policy you will have command of our entire stock of slides, over 40,000 in number, which will cost you only 22½c for plain, and 67½c colored, each, net. You will, of course, have to pay transportation charges both ways, and be responsible for any breakage or damage that may occur to slides in use or in transit.

---

## SLIDES TO RENT.

For several years we have refused to rent slides to any one for any consideration whatsoever, thinking that it militated against rather than favored business. The demand for renting, however, has been so great that we have been obliged to yield to the same. We therefore have decided to rent slides on the following conditions and terms: We stipulate that the full value of slides shall be deposited with us before we send them out; that transportation charges both ways shall be paid by you; also, that any loss from breakage or otherwise shall be paid by you, and that you shall pay 5 cents per slide for first day, and thereafter at the rate of 2c per day per slide, until slides are returned to us. We will deduct from the amount of your deposit, as per foregoing stipulations, and return to you the balance of the money.

We have issued a revised edition of our catalogue and actually carry over 40,000 slides in stock, which we are pleased to hold subject to your orders. Yours truly,

McINTOSH BATTERY & OPTICAL CO.

## TESTIMONIALS.

CHICAGO, ILL., Nov. 1, 1889.

To whom it may concern:

I have obtained thousands of slides—plain, colored, mounted, slip slides, dissolving views and all kinds of specimens of this wonderful work from the McIntosh Battery and Optical Co., 143 Wabash Ave., Chicago, and know these views to be of the finest in the market.

I have used all kinds of lanterns, and know of none of better quality every way, than those made by this firm. For many months in my mission work in Chicago I used their complete outfit, and always had the best results. The gas made by this house is of the cleanest and purest kind, and their cylinders are unrivaled. The limes are the best we have ever found, and always give satisfaction. We are well acquainted with all the great lantern firms in our country, and believe that none can give a better equivalent for your money than this solid and reliable house. They have experts for all their special departments, and men who are trained and educated for the work.

JOHN O. FOSTER, Pastor State Street M. E. Church.

We give the following from *Dunn's Quarterly*, a Chicago magazine for Sunday school concert exercises. Edited by Rev. John O. Foster, A. M.

### THE MAGIC LANTERN.

The magic lantern has come to stay. It has been laughed out, voted out, gone out, come back, doubled, tripled, and dissolved. It has been furnished with mounted slides, colored slides, revolving slides, aquariums, electrical appliances, growing trees, salamander experiments, pulsation of heart-beats, flowering plants, rain and snow storms, hail, frosts, flowing streams, rolling seas, tossing ships, blue skies, night owls, sunbursts, ghosts, armies in battle, dying heroes, cities, countries, specters, clouds, stars, mountains, fauna, flora, the microscopic world enlarged a million times, caves, grottos, panoramas and cycloramas, all on the screen large as life, natural as life, and full of truth and exactness.

Pictures delight the children; they educate, please, instruct, entertain, and if well arranged and well presented, are just the thing for a pure, harmless and cheap entertainment. We have tried the experiment many times, and always had success.

Published by W. P. DUNN & Co., 167 Adams Street.

WEST SIDE PUBLIC SCHOOLS, FRANK H. HALL, Supt. }  
AURORA, ILL., November 29, 1889. }

McIntosh Battery and Optical Co.:

Your burner with ether saturator gives as fine a light as I have ever seen. I have now used it three times, and it has given no trouble whatever—not a flicker in the light from the beginning to the close of an entertainment.

Yours, &c.,

FRANK H. HALL.

OFFICE OF R. H. LAMOREUX, DEALER IN DRUGS AND STATIONERY. }  
SAC CITY, Iowa, December 22, 1887. }

McIntosh G. and F. B. Co., 141 Wabash Ave., Chicago:

DEAR SIRS—The Saturator received in due time, and its performance pleases me greatly. It is a very great improvement over every other form of light for projection.

Yours truly,  
G. D. SITZER.

CHICAGO, Nov. 26, 1889.

McIntosh Battery and Optical Co., 141 Wabash Ave., City:

GENTLEMEN—I have been using your Sciopticon for several months and have used it with ether-oxygen light, manufacturing my own oxygen, and can say that it is perfectly satisfactory in every respect. We regard it as superior to the oxy-hydrogen light.

Yours very truly,

J. STANLEY GRIMES,  
Evanston Ill.

CHICAGO, Nov. 20, 1889.

McIntosh Battery and Optical Co., 141 and 143 Wabash Ave., City:

GENTLEMEN—After having used your Chicago Model Stereopticon for some time, during which I have thoroughly tested the instrument, I am compelled to express to you my thanks for having persuaded me to use this instrument. It is in every respect a most practical and useful apparatus, giving a clear, large and well-expressed picture. More especially am I pleased to find that the instrument will span with ease the distance of 110 feet.

Yours very truly, HAMILTON LECTURE CO.  
Per J. B. HAMILTON.

# GENERAL INDEX

—OF—

## LANTERNS AND THEIR ACCESSORIES,

—AND—

### OTHER ITEMS OF INTEREST.

	PAGE.		PAGE.
Amateur Photography.....	57	Hydrogen Generato.....	81
Adjustable Jet.....	32	Heliostat.....	41
Attachment Microscope.....	23	Jet Adjustable.....	32
Attachment Microscope, Solar...	41	Kodak Camera.....	60, 61
Advertising Stereopticons.....	3	Lamp Alcohol.....	74
Burner or Jet Adjustable.....	32	Lamp, New Model Sunlight Oil..	9
Camera, Kodak.....	60, 61	Lamp, Argand Student.....	7
Camera, Photographic.....	57	Lamp, Incandescent Electric....	14
Chemicals, Ether.....	66	Lamp, Arc Electric.....	14
Chemicals, Potassium, Chlorate ..	80	Lamp, Reading.....	37
Chemicals, Manganese Binoxide	78, 80	Lanterns. (See Sciopticons and	
Cylinders.....	34	Stereopticons).....	5 to 29
Directions for Managing Sunlight		Lantern Outfits.....	90, 91, 92
Oil Lamp.....	11, 86	Lantern Slides.....	89
Directions for Managing Solar Mi-		Light, for Projection.....	63
croscope.....	42	Light, to Focus.....	85, 86
Directions for Managing Solar		Limes.....	56
Stereopticon.....	42	Lantern Slides, different subjects	
Directions for Ordering Eye Pieces	51	for.....	59
Directions for care and use of Mi-		Lecturers' Reading Lamp.....	37
croscopic Objectives.....	54, 55, 56	Lecturers' Reading Stand.....	38
Directions for Managing the Oxy-		Lecturers' Electric Signal.....	36
Ether Lime Light.....	66, 67	Lenses, Microscope objective...53,	52
Directions for making Oxygen....	74	Lenses, Stereopticon objective..	58
Directions for making Hydrogen..	81	Lenses, Stereopticon Condensing.	62
Directions for care and use of the		Lenses, Cosmorama Condensing..	62
Self-Condensing Oxygen Retort		Lantern Slides to Order.....	94
and Cylinder.....	77, 78, 79, 80	Microscope, Attachment.....	23
Directions for making Screens....	83	Microscope, Attachment for Ob-	
Directions for making Pressure		lique Illumination.....	40
Boards.....	82	Microscope, Professional.....	48
Directions for Hanging Screens,		Microscope, New Clinical, No. 1.	51
.....	35, 83, 84	Microscope, New Clinical, No. 2.	51
Directions for managing Exhibi-		Microscope, Scientific, No. 1....	51
tions.....	87, 88	Microscope, Scientific, No. 2....	51
Dissolving Key Componnd.....	32	Manganese.....	78, 80
Dissolving Key, High Pressure...	33	Medical Colleges.....	1
Diagram of Dissolving Key and		Microscopists.....	2
Saturator.....	73	Object Teaching.....	43
Eye Pieces.....	51, 53	Objectives, Microscope.....	52, 53
Ether Oxygen Light.....	64	Objectives, Microscope, Magnify-	
Ether.....	66	ing Powers of.....	54
Gas-bags.....	81	Objectives, Stereopticon, Magnify-	
Gauges.....	77	ing Powers of.....	58, 59
General Price List.		Oxygen.....	92
Generator for Hydrogen.....	71	Oxygen Retort and Cylinder, Self	
Hydrogen.....	92	Condensing.....	77, 78, 79, 80
Hydrogen and how to make it....	81	Oxygen, and How to Make it...74,	77



	PAGE.		PAGE.
Photography, Amateur.....	57	Stereopticons, Combination.....	22
Photography, Kodak Camera..	60, 61	Stereopticons, Biunial.....	24
Photographic Camera.....	57	Stereopticons, Royal Photo-Opti- con.....	26
Parlor Entertainment.....	2	Stereopticons, Tri-Opticon.....	29
Pressure Boards.....	82	Stereopticons, Solar Microscope and Combination... ..	14
Potassium Chlorate.....	80	Shutter, Instantaneous Dissolving	31
Porte Lumiere.....	41	Signal, Lecturers' Electric.....	36
Profitable Business.....	4	Secret Societies.....	
Renting of Slides.....	228	Sunday School Work.....	
Retort.....	74	Screens.....	35
Retort Stand.....	74	Screens, Frame.....	35
Rope.....	82	Slide Protector, Tin.....	39
Sciopticon, Society.....	5	Saturator, Ether.....	64
Sciopticon, Argand.....	6, 7	Saturator, Ether, No. 1.....	65
Sciopticon, McIntosh No. 1.....	8	Saturator, Ether, No. 2.....	66
Sciopticon, McIntosh No. 2.....	12	Saturator, Ether, No. 3.....	66
Sciopticon, Incandescent Electric.	14	Saturator, Ether, Directions.....	66, 67, 68, 69
Sciopticon, Arc Electric.....	14	System of Sale.....	228
Sciopticon, Dissolving.....	15	Temperance and Intemperance... ..	2
Sciopticon, Chicago Model.....	18	Testimonials... ..	11, 18, 20, 28, 46, 47, 67
Sciopticon, Telescope.....	21	Valves, Double Needle.....	34
Slides, Renting of.....	228	Wash Bottle.....	74
Stereopticons, Exhibitors.....	16		
Stereopticons, Exhibitors' Dissolv- ing.....	17		
Stereopticons, Chicago Model....	19		

## GENERAL PRICE LIST.

Adjustable Jet.....	\$10 00	for jets, each.....	\$1 50
Attachment Microscope.....	25 00	Gauge, for measuring gas, 300	
Bottles, Purifying.....	1 50	pounds.....	6 00
Bunsen Burner.....	1 25	Gauge, for measuring gas, 300	
Boards, Pressure.....	7 00	pounds, pocket size.....	10 00
Couplings for H. P. Hose, each	75	Glasses for sunlight oil lamp,	
Cylinders, Steel, 4x18, mounted		each.....	10
with Double Needle Valve..	15 00	Generator for Hydrogen.....	12 00
Cylinders, Steel, 5x24, mounted		Glass Tank for holding water,	
with Double Needle Valve.	20 00	fishes, insects, animalculæ,	
Cylinders, Steel, 8x30, mounted		tadpoles, etc.....	3 00
with Double Steel Valve....	22 50	Heliostat (only).....	50 00
Cylinders, Steel, 10x32, mount-		Jets, adjustable, for oxy-ether	
ed with Double Needle Valve	25 00	or oxy-hydrogen light.....	10 00
Cylinders, Steel, 12x24, mount-		Jets, mechanical, for oxy-ether	
ed with Double Needle Valve	27 50	or oxy-hydrogen light.....	25 00
Cylinders, Steel, 12x48, mount-		Jets, mechanical, with mechan-	
ed with Double Needle Valve	30 00	ical lime movement.....	28 00
Cylinders, Copper, same sizes		Kodak Camera, No. 1.....	25 00
as above, each, additional...	8 00	Kodak Camera, No. 1.....	32 50
Cylinder Key, each.....	50	Lamp, Argand Student.....	5 00
Chemicals for making Gas—		Lamp, Two-Wick, used in So-	
Potassium Chlorate, market		ciety Sciopticon.....	4 00
rates.		Lamp, Sunlight, Oil, New,	
Manganese, Black Bin-Oxide		Model, 4-Wick.....	12 50
market rates.		Lamp, Alcohol, 5-Wick.....	1 25
Zinc, Granulated, market		Lamp, Incandescent, 150 Can-	
rates.		dle Power, Mounted on Base	10 00
Sulphuric Acid, market rates.		Lamp, Focussing Arc, Best	
Camera, Kodak, No. 1.....	25 00	Grade.....	100 00
Camera, Kodak, No. 2.....	32 50	Lamp, Reading, for Lecturer,	
Camera, Amateur Photography	6 50	very compact.....	5 00
Camera, Portable Photograph-		Lenses, Condensing, Plano	
ers'.....	42 00	Convex, 4 inch diameter,	
Dissolving Key, without Adjust-		per pair, Mounted in Brass.	10 00
able Off-flow Valves.....	12 00	Lenses, Condensing, Plano	
Dissolving Key, with Adjust-		Convex, 4½ inch diameter,	
able Off-flow Valves.....	14 00	per pair, Mounted in Brass..	15 00
Dissolving Key, high pressure,		Lenses, Condensing, Plano	
McIntosh Improved with		Convex, 4½ inch in diameter,	
high pressure Hose and		per pair Mounted in Brass,	
Couplings.....	50 00	with Protecting Glasses....	18 00
Dividing T Tube.....	35	Lenses, Condensing, Triple	
Dissolving Shutter, Instantane-		System, 4½ inch in diameter,	
ous, attached.....	25 00	Mounted in Solid Brass	
Dissolving Shutter, Instantane-		Fronts, as on Biunial Lantern	
ous, detached.....	20 00	with Flange Ring.....	30 00
Ether, Sulphuric, best grade,		Lenses, Condensing, Single,	
per pound.....	market rate	Unmounted, 4 inch in diame-	
Eye Pieces.....	4 00	ter, Each.....	3 50
Gas Bag, 30x40x20, extra heavy,		Lenses, Condensing, Single,	
A No. 1 quality, with stop-		Unmounted, 4½ inch in di-	
cock, 55 gal. capacity.....	22 00	ameter, Each.....	4 00
Gas Bag, 30x40x30, extra heavy,		Lenses, Condensing, Single,	
A No. 1 quality, with stop-		Unmounted, 5 inch diameter,	
cock, 85 gal. capacity.....	30 00	Each.....	6 50
Goose Necks, platinum tipped,		Lenses, Achromatic Objective	

for Lanterns:		Manganese, market rate.	
Lenses, Darlot, Quarter Size,		Oxygen Retort, Sheet Steel..	\$6 00
Showing 7-foot Disc at 14-		Oxygen Retort, Copper.....	10 00
Foot Range .....	\$7 00	Oxygen Retort, Self-condensing	
Lenses, Darlot, One-Third Size,		and Cylinder .....	75 00
Showing 12-foot Disc at 36-		Photographers' Camera.....	42 00
Foot Range.....	12 00	Pressure Boards.....	7 00
Lenses, Darlot, One-Half Size,		Potassium Chlorate, market	
Showing 16-foot Disc at 50-		rate.	
Foot Range.....	14 50	Porte Lumiere (only).....	50 00
Lenses, Darlot, Two-Thirds		Reading Lamp for Lecturer...	5 00
Size, showing 16-Foot Disc at		Reading Stand for Lecturer,	
60-Foot Range.....	25 00	Metal, Folding, Iron Jap-	
Lenses, Darlot, Four-Fourths		panned .....	3 00
Size, Showing 16-Foot Disc at		Reading Stand for Lecturer,	
90-Foot Range.....	33 00	Brass, Nickel-plated, Tele-	
Lenses, Suter, No. 3.....	50 00	scope .....	10 00
Lenses, McIntosh Gem, No. 1.	4 00	Retort, Extra Heavy Copper,	
Lenses, McIntosh Argand.....	7 00	for making Oxygen, complete	10 00
Lenses, Voigtlaender's Eury-		Retort, Extra Heavy Copper,	
scope, No. 2, Focal Length 10		for making Oxygen, small	
inches.....	52 00	size.....	6 00
Lenses, Voigtlaender's Eury-		Retort, for making Oxygen,	
scope, No. 3, Focal Length 11		sheet steel....	6 00
inches.....	65 00	Retort Stand .....	1 25
Limes, Cylindrical Sticks, Her-		Rope, Sash Weight, per Skein	
metically Sealed, per dozen.	1 25	100 ft.....	1 00
Limes, English, Hermetically		Rubber Tubing, quarter inch,	
Sealed, per dozen.....	2 00	Highest Grade, per foot....	15
Limes, Disc, Hermetically		Rubber Tubing, 3 ply Silk	
Sealed, per dozen.....	2 50	Covered, High Pressue, per	
Lime Tongs .....	75	foot .....	50
Lecturers' Electric Signal, No.		Sciopticon, Society .....	25 00
1 .....	10 00	Sciopticon, Argand, with Stu-	
Lecturers' Electric Signal, No.		dent Lamp .....	35 00
2 .....	12 50	Sciopticon, Argand, without	
Microscope Attachment, for		Student Lamp.....	30 00
Lantern, without Objective	25 00	Sciopticon, McIntosh No. 1, for	
Microscope Attachment, Ob-		oil only .....	40 00
lique, without Objective....	35 00	Sciopticon, McIntosh No. 2, for	
Microscope, Professional, Mc-		lime light only.....	40 00
Intosh, complete.....	100 00	Sciopticon, McIntosh No. 2, one	
Microscope, Clinical, No. 1,		pair with Dissolving Key....	84 00
McIntosh.....	20 00	Sciopticon, McIntosh Incan-	
Microscope, Clinical No. 2,		descent .....	40 00
McIntosh.....	25 00	Sciopticon, McIntosh, with	
Materials for Mounting Slides:—		both oil and lime light.....	50 00
Glass Plates, Selected Glass,		Sciopticon, Telescope .....	85 00
Standard Size, per doz....	50	Stereopticon, Exhibitor's, each	65 00
Glass Plates, Prepared, Stand-		Stereopticon, Exhibitor's, per	
ard Size, Reliable Make,		pair, with Dissolving Key....	140 00
per doz.....	70	Sciopticon, Chicago Model....	75 00
Black Paper Mats, Standard		Stereopticon, Chicago Model..	150 00
Size, per doz.....	25	Stereopticon, McIntosh Com-	
Black Binding Paper, per 100	25	bination, complete.....	100 00
Blank Labels, per hundred..	25	Stereopticon, McIntosh Com-	
Mounts for Plain Slides, tin,		bination, without Optical	
round or square, each....	06	Parts.....	50 00
Mounts for Plain Slides,		Stereopticon, McIntosh Biunial	200 00
Wood, round or square,		Stereopticon, McIntosh Biunial	
each.....	20	with Triple Condensers and	



## GENERAL INDEX OF SLIDES.

Abbeys and Castles of England..	143	Botanical Illustrations.....	179
Abide With Me.....	168, 169	Buy Your Own Cherries.....	162
A Christmas Hymn.....	158, 168	Buy Your Own Goose.....	162
Additional Scientific.....	179	Boston.....	98, 150
A Flight of a Soul.....	170		
Africa.....	117, 139	Canada.....	99
Alabama.....	112	Cashmere.....	221
Aladdin or the Wonderful Lamp..	176	Ceylon.....	220
A Leap for Life.....	152	Chicago.....	99, 100, 101, 150
Alaska.....	218	Chinese Empire.....	128, 138
Algae, Desmidiaceae, Fungi, &c..	188	California.....	107, 108
America, or the Land We Live in	217	Colorado.....	102, 103, 108
American History, early.....	115	Camps and Camping.....	108
American History, modern.....	115	Columbia River.....	108
American Mechanics.....	164	Colorado and New Mexico..	102, 103
American Protestant Association.	164		108
Anatomy.....	180	Crayon Caricatures.....	165
Animal Substances and Organs	182, 190	Comic.....	165
Animals at the Zoological Gar-		Comic, Photographic, Colored	
dens.....	203	Slipping Slides.....	166
An Old Story.....	162	Comic Slides.....	166
A Peep into Nature Through a		Comic Irish Scenes.....	166
Microscope.....	151	Colored Slides of Egypt.....	167
Arabia.....	209, 210, 211	Christmas Hymn.....	168
Arctic Region.....	111, 112, 140	Comic, Selected, Painted Slip	
Asiatic Art.....	226	Slides.....	168
Astronomical Slides.....	176	Comic Tales.....	174
Astronomical Diagrams with Mo-		Children's Short Stories.....	175
tion.....	176	Cock Robin.....	175
Astronomical Diagrams without		Children in the Wood.....	176
Motion.....	176	Cinderella.....	176
Astronomical Diagrams, Thirty		Crystallography.....	178
Choice.....	176	Central Africa.....	139
A Thousand Miles in Nile Land	133	China and the Chinese.....	138
A Tour with the Goddesses.....	174	Children of Israel.....	216
Austria.....	219	Children's Entertainment, No. 1.	147
Australia.....	231	Children's Entertainment, No. 2.	147
A Year Within the Arctic Circle	140	Choice Selected Art Studies from	
		Nature.....	157
Bavaria.....	123	Chromatropes.....	159
Beautiful Companion Pieces....	168	Clouds and Water.....	159, 167
Beautiful Colored Photographs..	168	Cuba.....	218
Belgium.....	123, 124		
Bible History.....	132	Dick Whittington.....	175
Bible Illustrations.....	130, 131	Diatoms.....	185
Big Trees.....	107	Denmark.....	124, 127
Birth of the Water Babies.....	170	Dissolving Views..	153, 154, 155, 156
Blood Discs.....	182	Dissolving Views with Mechan-	
Boons and Blessings.....	163	ical Effect.....	153, 154, 155, 156
Brazil.....	116	Dioramas.....	159
British Columbia.....	218	Dore Views.....	130
Burmah.....	144		

Educational Slides.....	176	Jacksonville .....	112
England. 118, 119, 120, 121, 149,	216	Johnstown, Pa. ....	96, 97
Extinct Animals.....	179	Java.....	117
English History.....	129	Japan.....	128, 129
Egypt. 134, 135, 138, 205, 206, 207,	208	Jack and the Bean Stalk .....	176
Electricity and Magnetism.. 195, 196		Jerusalem on the Day of the Cru-	
..... 197, 198, 199, 200, 201		cifixion.....	136
Egypt and the Egyptians.....	134	John Hampden's Home.....	162
Egypt, Old and New.....	135	John Tregenoweth .....	149
		John Ploughman's Pictures .....	149
Fairmount Park.....	98	Jack the Giant Killer.....	175
Florida.....	112		
France..... 122, 123, 149,	215	Leap for Life.....	152
Flying Time.....	170	London..... 118, 119, 149,	216
Foraminifera.....	184	Labrador.....	111
Fasoldt Test Lines.....	185	Louisiana..... 112,	151
From Damascus to the Sea....	134	Life of Our Saviour.....	132
From Hebron to Bethel .....	135	Life of Jesus Christ.....	152
From Greenlands Icy Mountains.	227	Life of Grant.....	129
Far West.....	150	Little Red Riding Hood.....	175
From Champagne to the End....	161	Larvæ.....	183
Father, Dear Father, Come Home	162	Light..... 201, 202,	203
French History.....	129	Life of Napoleon Bonaparte....	130
		Life of Washington.....	129
Germany.....	123	Life of Joseph.....	152
Grand Canon of the Arkansas... 101		Life of Moses.....	152
Garden of the Gods..... 102,	103	Life of St. Paul.....	153
Georgia..... 112,	113	Life of Martin Luther.....	153
Gettysburg.....	115	Little Tiz.....	163
Greece.....	128	Liverpool.....	151
Grand Army of the Republic....	164	London to Rome.....	146
Geology.....	178		
Geology, Additional.....	178	Matanzas.....	218
Geological Ideal.....	178	Mariposa Grove.....	107
Greek Art.....	224	Maryland.....	114
		Mississippi.....	113
Havana.....	218	Minnesota.....	109
Home, Sweet Home..... 158,	168	Mexico..... 109, 110,	111
Holland..... 123, 127,	142	Mt. Hood and Mt. Tacoma....	108
Hymns with Music.....	216	Massachusetts.....	98
Holy Land..... 211 to	215	Man of War.....	116
Hebe's Revenge upon Cupid....	171	Magnetism and Electricity.. 195, 196	
Heat..... 193,	194	..... 197, 198, 199, 200,	201
Hydrostatics.....	190	Mechanics.....	190
Historic Places.....	150	Man and Calf.....	175
How They Live in Egypt.....	134	Mr. O'Tool's Adventures with his	
Human Physiology Popularly Ex-		Umbrella.....	175
plained.....	180	Maps.....	177
Honey Bee.....	179	Microscopic Objects.....	180
		Microscopical Pathology.....	180
Illinois..... 99, 100, 101,	150	Mysore.....	139
Indian Sports and Games.....	116	Moller's Diatomacean Plattes... 185	
Isle of Wight.....	119	Miscellaneous Test Objects....	186
Italy..... 126, 146,	215	Microscopical Objects.....	186
Ireland..... 121, 122, 141,	142	Microscopical Preparations.. 182,	
India.. 117, 138, 139, 144, 219, 220,	221	183, 184, 185, 186, 187, 188,	189
Island of Ceylon.....	118	Microscopic Gems.....	151
Ice and Snow.....	167	Modern Egypt and its People... 137	
Important Events in Europe....	158	Mechanical Slides.....	158
		Masonic.....	164
		Marriage a la Mode.....	163

Napoleon Series .....	130, 222	Reproductions.....	223
Natural Clouds.....	167	Round About Jerusalem.....	136
Nile Tombs and Temples.....	135	Route to India.....	138
Normal Animal Tissues 190, 191,		Round the World in a Yacht....	140
192, 193		Richmond.....	150
Niagara in Winter.....	133	Rip Van Winkle .....	152
Niagara .....	95, 150	Rhine .....	143
Norway .....	127, 142, 143	Reynard the Fox.....	174
New Tale of a Tub.....	158	Round the World with a Camera	140
Natural Phenomena.....	158	Rome, Ancient and Modern....	141
Natural Clouds.....	150	Rome.....	141, 145, 149, 215
New York .....	94, 150	Revolving Movements.....	158
New York City.....	94, 95	Rhode Island.....	98
New Hampshire.....	98	Russia .....	127
Newport .....	98		
Nebraska .....	101	Sir Isaac Newton and the Apple	174
New Orleans.....	112, 151	Simon and his Pig.....	175
North Carolina.....	113	Scientific Slides.....	176, 179
New Testament.....	131, 132	South Pacific Ocean—Australia..	221
Noted Women of the Bible.....	173	Spectrum Analysis.....	178
Nile Land.....	216	Surgical Pathology.....	181
		Spermatozoa .....	181
Old Roman World.....	150	Spicula from Zoophites, Sponge,	
Odd Fellows.....	164	etc.....	184
Old Mother Hubbard.....	175	Slip Slides .....	166
Old St. Augustine.....	151	Sections of Fossil Woods.....	185
Ohio.....	99	Sections of Bone, Teeth and	
Old Testament .....	130, 131	Shells.....	184
		Spiders.....	183
Peloponnessus .....	226	Sections of Insects.....	183
Prang's Am. Civil War.....	116	Scales from Ferns.....	188
Pilgrims' Progress..147, 148, 149,	152	Syria .....	211
Perpendicular Movements.....	158	Songs with Music.....	216
Panoramas .....	159	Sinaitic Penn.....	209
Portraits .....	160, 161	Stanley in Africa.....	137
Progress of Intemperance.....	162	Summer Resorts.....	95, 96
Patriotic Order of Sons of Amer-		Switzerland of America.....	97
ica.....	164	St. Lawrence River.....	99
Photo-Micrographs .....	190, 191,	St. Paul Series.....	222
192, 193, 215		Salt Lake City.....	103
Pig Tail Comedy.....	167	South Carolina.....	113
Piton's Foreign Comiques.....	167	South America.....	116
Physiology .....	180	South Pacific Ocean.....	118
Physiological Preparations.....	181	Sound .....	199
Parasitic Insects.....	182	Scotland.....	121
Parts of Insects.....	183	Stones and Minerals.....	188
Polariscopical Objects.....	187	Spain .....	124, 144
Polariscopical Objects Moving in		Switzerland.....	124, 125, 126, 145
Fluid.....	188	Sweden .....	127
Pollens and Cuticles.....	189	Seven Ages of Man.....	152
Petra.....	136, 211	Superior Dissolving Views...153,	
Palestine.... 211, 212, 213, 214,	215	154, 155, 156	
Paris..... 122, 123, 149, 150,	215	Selected Subjects.....	156, 157
Picturesque Palestine.....	135	Snow and Ice.....	159, 167
Picturesque Holland.....	142	Statuary .....	159, 160
Philadelphia..... 97, 98, 150		Stomach of a Drunkard.....	161
Pennsylvania .....	97, 98, 150	Secret Society Slides.....	164
Pacific Slope.....	108		
Patagonia .....	116	Tasmania .....	118
Portugal .....	124	Temple of Honor.....	165
Pyramids .....	209	The Journey of Aurora.....	170

The World.....	171	The Travels of the Sultan of Ragobaga, etc.....	162
The Girl and the Butterfly.....	172	The Trial of Sir Jasper.....	163
The Crusades.....	222	The Harlot's Progress.....	163
The Seven Stages of Modern Girl- hood.....	172	The Rake's Progress.....	163
The Seven Periods of Young America.....	173	The Rumors of Election.....	163
The Seasons.....	174	The Return from the Tavern....	163
The Adventures of Mr. Briggs with a Bull.....	174	The Gin Fiend.....	163
The Adventures of Smith, Jones, Brown and Robinson.....	175	The Whisky Demon.....	162
Tom Thumb.....	175	The Worship of Bacchus.....	163
The Three Bears.....	175	The Foolish Toper.....	163
The Sun.....	177	The Tipsy Geese.....	163
The Flight of a Soul.....	170	Utah.....	103
The Moon.....	177	U. S. History, early.....	116
The Solar System Illustrated....	177	U. S. History, modern.....	116
Toxicological.....	181	Uruguay.....	116
Test Diatoms.....	185	Uncle Tom's Cabin.....	152
The Great Pyramids.....	209	Urinary Deposits.....	181
The Taking of Petra.....	130	View of the Johnstown Disas- ter.....	96, 97
The Thousand Islands.....	96	Vermont.....	99
Turkey.....	127	Virginia.....	113, 114
The Rhine.....	143	Vegetable Deposits.....	188
The Hardanger Fjord.....	143	Vegetable Fibers.....	188
The Highlands of Scotland.....	144	Vegetable Preparations.....	189
The Lowlands of Scotland.....	145	Voyage of Life.....	152
The Mediterranean.....	145	Visit of St. Nicholas.....	158
The Romance of History.....	147	Western Norway.....	142
The Ten Commandments.....	153	West Indies—Cuba.....	218
The Lord's Prayer.....	153	Walk About Venice.....	150
The Last Voyage of the Ocean Steamer.....	157	Water and Clouds.....	159
Two Paths of Virtue and Vice..	157	Washington, D. C.....	114, 115, 149
Tam O'Shanter.....	157	Whole Insects.....	183
The Ill-fated Ship.....	158	White Mountains.....	98
Temperance Slides.....	161	Wisconsin.....	101
Ten Nights in a Bar Room.....	161	Wyoming.....	103
The Drunkard's Progress.....	161	West Indies.....	111
The Man and the Beast.....	161	Wales.....	121
The Bottle.....	161	Yellowstone Park, 103, 104, 105, 106	107
The Drunkard's Daughter.....	161	Yosemite.....	107, 108, 150
The Gambler's Career.....	162		
The Drunkard's Children.....	162		
The Gin Shop.....	162		



# INDEX OF LECTURE SETS.

America, or The Land We Live In	217	Historic Places.....	150
Animals at the Zoological Gardens.....	203	How they Live in Egypt.....	134
Astronomical Paintings, without Motion .....	176	Human Physiology Popularly Explained.....	180
Aladdin or the Wonderful Lamp.....	176	Home, Sweet Home.....	168
A Peep into Nature Through a Microscope .....	151	Italy.....	146
Abbeys and Castles of England..	143	Ireland No. 1.....	141
A Thousand Miles in Nile Land..	135	Ireland No. 2.....	142
A Year Within the Arctic Circle.....	140	India.....	139
A Walk About Venice .....	150	John Hampden's Home.....	162
A Christmas Hymn .....	168	John Plowman's Pictures .....	149
An Old Story.....	163	John Tregenoweth.....	149
Africa, Central .....	139	Jerusalem on the day of the Crucifixion .....	136
Boons and Blessings.....	163	Jack and the Bean Stalk.....	176
Buy Your Own Goose.....	162	Jack the Giant Killer.....	175
Buy Your Own Cherries.....	162		
Boston .....	150	Liverpool.....	151
Burmah.....	144	Life of Washington.....	129
Bible History.....	132	Life of U. S. Grant.....	129
Chicago.....	150	Life of Napoleon.....	130
Children's Entertainment No. 1..	147	Life of Our Savior.....	132
Children's Entertainment No. 2 ..	147	Life of Jesus .....	152
Central Africa.....	139	Life of Joseph .....	152
China and the Chinese .....	138	Life of Moses .....	152
Cinderella .....	176	Life of St. Paul.....	153
Children in the Woods.....	176	Life of Martin Luther.....	153
Cock Robin.....	175	London to Rome.....	146
Children's Short Stories.....	174	Liverpool.....	151
Comic Tales .....	174	Leap for Life.....	152
Colorado and New Mexico.....	102	London .....	149
		Little Red Riding Hood .....	175
Dick Whittington .....	175	Little Tiz.....	163
Early United States History.....	116	Modern United States History... 116	
Egypt, Old and New.....	135	Modern Egypt and its People... 137	
English History.....	129	Mediterranean.....	145
Egyptians and the Egyptians....	134	Mysore .....	139
Egypt.....	138	Microscopic Gems.....	151
Extinct Animals .....	179	Mr. O'Toole's Adventures with His Umbrella.....	175
Father, Dear Father, Come Home	162	Microscopical Objects .....	186
From Champagne to the End..	161	Marriage a la Mode .....	163
From Hebron to Bethel.....	135	Man and Calf.....	175
From Damascus to the Sea .....	134		
French History.....	129	New Orleans.....	151
		Niagara.....	150

New York.....	150	The Adventure of Mr. Briggs with the Bull.....	174
New Tale of a Tub.....	158	The Topsy Geese.....	163
Nile Tombs and Temples.....	135	The Foolish Toper.....	163
Norway, Western.....	142	The Worship of Bacchus.....	163
Old St. Augustine.....	151	The Gin Fiend.....	163
Old Mother Hubbard.....	175	The Return from the Tavern....	163
Philadelphia.....	150	The Rake's Progress.....	163
Progress of Intemperance.....	162	The Harlot's Progress.....	163
Pilgrim's Progress.... 147, 148,	149	The Trial of Sir Jasper.....	163
Pilgrim's Progress.....	152	The Gambler's Career.....	162
Paris.....	149	The Drunkard's Children .....	162
Picturesque Holland.....	142	The Whisky Demon .....	162
Prang's Civil War.....	116	The Dream of the Reveler.....	162
Picturesque Palestine.....	135	The Gin Shop .....	162
Rip Van Winkle.....	152	The Travels of the Sultan of Ra- gobaga, etc.....	162
Richmond.....	150	The Old Story.....	162
Romance of History; or Facts and Fiction.....	147	The Drunkard's Daughter .....	161
Rome.....	145, 149	The Drunkard's Progress .....	161
Rhine, The.....	143	The Man and the Beast .....	161
Round the World in a Yacht....	140	The Bottle .....	161
Route to India.....	138	The Stomach of the Drunkard ..	161
Round the World with a Camera.	140	Ten Nights in a Bar Room.....	161
Rome, Ancient and Modern....	141	The Life of Martin Luther.....	153
Round About Jerusalem.....	136	The Lord's Prayer .....	153
Reynard the Fox.....	174	The Ten Commandments .....	153
Rumors of an Election.....	163	The Life of St. Paul .....	153
Scotland, The Highlands of....	144	The Life of Moses .....	152
Scotland, The Lowlands of....	145	The Life of Joseph.....	152
Switzerland .....	145	The Life of Jesus Christ.....	152
Spain.....	144	The Voyage of Life.....	152
Sweden and Norway.....	143	The Old Roman World .....	150
Stanley in Africa.....	137	The Far West .....	150
Simon and His Pig .....	175	The Lowlands of Scotland.....	145
Sir Isaac Newton and the Apple..	174	The Highlands of Scotland.....	144
Seven Ages of Man.....	152	The Hardanger Fjord....	143
Stomach of a Drunkard .....	161	The Taking of Petra.....	136
The Solar System Illustrated....	177	The Seasons.....	174
The Three Bears.....	175	Uncle Tom's Cabin.....	152
Tom Thumb.....	175	U. S. History, Early.....	116
The Adventures of Brown, Smith, Jones and Robinson.....	175	U. S. History, Modern .....	116
		Visit of St Nicholas .....	158
		Washington.....	149
		Western Norway .....	152
		Yosemite.....	150

## PARLOR ENTERTAINMENTS

## — \* — AND LECTURES

... We can furnish everything required for giving an ILLUSTRATED LECTURE.  
Get our prices if you want a

LANTERN

VIEWS

SCREENS

GAS

LIMES

TOY AND OIL LANTERNS.

... We carry over 25,000 Views, plain and colored, and can fill all orders without delay. To those desirous of giving a private or public entertainment, we will rent a complete apparatus, selection of views on any subject and furnish an experienced operator at a very reasonable figure.

## MICROSCOPES

... As we are IMPORTERS and MANUFACTURERS, we carry a large stock of superior Microscopes, Accessories and Mounting Material, adapted to the use of Amateurs, Students and Professionals, at a very low price.

## ELECTRIC BATTERIES ♦ ♦ ♦ ♦

AND

## ♦ ♦ ♦ ♦ ELECTRICAL APPARATUS

---

MCINTOSH • BATTERY • AND • OPTICAL • CO.

141-143 WABASH AVENUE,

CHICAGO, ILL., U. S. A.

— • — GOLD MEDALS — • —



AWARDED

— THE —

MCINTOSH

Battery and Optical Co.

— AT THE —

WORLD'S INDUSTRIAL AND COTTON CENTENNIAL EXPOSITION,

AT NEW ORLEANS, 1884 - 1885.

